



RECORD No. 217 24-000197 For Office Use Only PLNG

Crook County Community Development/Planning Division
300 NE 3rd Street, Room 12, Prineville Oregon 97754
541-447-3211

plan@co.crook.or.us
www.co.crook.or.us

RECEIVED

Comprehensive Plan, Map, and Text Amendments **AUG 02 2024**

Crook County
Community Development

PROPERTY OWNER:

Last Name: The Charles and Carleen Hegele Revocable Trust, First Name: Carleen C. Hegele, Trustee
utd April 2, 2015

Mailing Address: 7950 N. Lone Pine Road

City: Terrebonne State: OR Zip: 97760

Day Time Phone: () - Cell Phone: (541) 350 - 2412

Email: rockyhegele@yahoo.com and candyhegele@rocketmail.com

AGENT/REPRESENTATIVE:

Last Name: Shipman First Name: Mark

Mailing Address: PO Box 470

City: Salem State: OR Zip: 97308

Day Time Phone: (503) 399 - 1070 Cell Phone: () -

Email: mshipman@sglaw.com & hstevenson@sglaw.com

PROPERTY INFORMATION:

Township 14S Range 14E Section 9 Tax Lot 101

Size of property: 277.73 +/- acres Zone: EFU2

Physical address: 7950 NW Lone Pine Road, Terrebonne, OR 97760

Subdivision name, if applicable: N/A Lot Block

FLOOD PLAIN:

Is the subject property located within a Flood Plain Zone? Yes No x

If yes, what zone:

SCANNED



Crook County Community Development

300 NE 3rd Street, Prineville, OR 97754

Phone: (541) 447-3211 Fax: (541) 416-2139

Email: bld@co.crook.or.us Website: www.co.crook.or.us

AUTHORIZATION FORM

Let it be known that Mark D. Shipman of Saalfeld Griggs PC
(Print name clearly)

has been retained to act as my authorized agent to perform all acts for development on my property noted below. These acts include: Pre-application conference, filing applications, and/or other required documents relative to all permit applications in regards to this project.

Physical address of property: 7950 NW Lone Pine Road, Terrebonne and described in the records of CROOK COUNTY, Oregon as map/tax number: 141409-00-00101

The costs of the above actions, which are not satisfied by the agent, are the responsibility of the undersigned property owner.

PROPERTY OWNER

(Please print clearly)

Printed Name: Carlleen Connie Hegele, Trustee of The Charles and Carlleen Hegele Date: _____
Revocable Trust, utd April 2, 2015

Signature: _____

Mailing Address: 7950 NW Lone Pine Rd

City: Terrebonne State: OR Zip: 97660

Phone: 541-350-2412 (Rocky) or 503-519-3606 (Candy)

eMail: rockyhegele@yahoo.com and candyhegele@rocketmail.com

Individual Corporation Limited Liability Corporation Trust

IMPORTANT NOTE: If the property is owned by an entity, include the names of all the authorized signers.

If a Corporation: Provide the name of the President, or other authorized signor (s).

If a LLC: Provide the names of ALL members and managers.

If a Trust: Provide the name of the current Trustee (s).

In addition, if you are a corporation, you will need to include a copy of the bylaws, an operating agreement if you are an LLC, or Certificate of Trust if you are a trust that verifies authority to sign on behalf of the entity

APPROVED AGENT

Printed Name: Mark D. Shipman/Saalfeld Griggs PC Date 05 / 17 / 2024

Signature: _____

Mailing Address: PO Box 470





City: Salem State: OR Zip: 97308

Phone: 503-399-1070

eMail: mshipman@sglaw.com & hstevenson@sglaw.com





Title	SAR Expansion App Forms- Authorized Agent
File name	Agency_Signed-_CUP_Application.pdf and 1 other
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COMPLETED 00:52:46 UTC The document has been completed.

Title	Your Signature is Requested on Crook County Application...
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-  **07 / 24 / 2024**
COMPLETED 22:20:17 UTC The document has been completed.

July 31, 2024

VIA FEDERAL EXPRESS: 777721415582



Attn: Will Van Vactor, Director
Community Development Department
Crook County Courthouse
300 NE 3rd St, Rm 12
Prineville, OR 97754

RE: Consolidated Filing for Lone Pine Quarry Expansion Request (CPA/CUP)
Our File No: 42430-00002

Will Van Vactor:

On behalf of SAR Environmental, LLC, an Oregon limited liability company, (the "**Applicant**" and "**Client**") and in collaboration with Carlleen C. Hegele, Trustee of the Charles and Carlleen Hegele Revocable Trust, (the "**Trust**"), as the owner of the property commonly known as 7950 NW Lone Pine Road, Terrebonne, OR 97760, Tax Lot No. 1414090000101, Parcel No. 13107 (the "**Property**"), enclosed please find our Client's request for: 1) a Comprehensive Plan Amendment (CPA) to add a 12.37-acre portion of the Trust Property to Crook County's Goal 5 Surface Mineral & Aggregate Inventory, and, 2) a Conditional Use Permit (CUP) to allow mining, crushing, and stockpiling of aggregate and other subsurface material on the 12.37-acre area, continuing the current mining operation on the Trust Property as permitted by the Crook County Code (the "**Expansion**").

Per your request, we have enclosed two sets of Expansion Application materials for Staff's concurrent review of the CPA & CUP requests, which includes the following:

1. Signed CPA & CUP Application Forms, which includes, signed Authorization Form(s) designating myself as Applicant's Authorized Agent, along with correspondence from the Chairman of the Lone Pine Irrigation District (LPID) indicating that LPID does not have any comments/opinions with respect to the proposed Expansion, and ultimately declined signing the CUP Application Form;
2. Two (2) Cashier's Checks (\$6,040.00 (CPA) & \$3,725.00 (CUP));
3. Two (2) Written Statements, which include the following exhibits:

SALEM
Park Place, Suite 200
250 Church Street SE
Salem, Oregon 97301
Post Office Box 470
Salem, Oregon 97308
tel 503.399.1070
fax 503.371.2927

BEND
Vision Plaza
404 SW Columbia St
Suite 150
Bend, Oregon 97702
tel 541.693.1070

July 31, 2024

Attn: Will Van Vactor, Director

Page 2

- a. Exhibit 101 – Last Deed of Record;
- b. Exhibit 102 – Historical Tax Lot Card;
- c. Exhibit 103 – Configuration Deed;
- d. Exhibit 104 – Proposed Permit Boundary Survey;
- e. Exhibit 105 – Irrigation Map;
- f. Exhibit 106 – Historical Water Rights Documentation for Irrigation;
- g. Exhibit 107 – Current DOGAMI Permit No. 07-0150 Operating Permit;
- h. Exhibit 108 – Wallace Group Mineral Resource Evaluation (MRE) Report;
- i. Exhibit 109 – Site Plan & Existing Structures Map;
- j. Exhibit 110 – Impact Area Map;
- k. Exhibit 111 – Carlson Geotech Study 2002;
- l. Exhibit 112 – Kleinfelder, Inc. Geotech Study 2002;
- m. Exhibit 113 – Wallace Group Geotech Study 2015;
- n. Exhibit 114 – Proposed Reclamation Plan;
- o. Exhibit 115 – Proposed Conditions of Approval; and
- p. Exhibit 116 – Richard Butler Letter in Support.

Once Staff has had time to set these applications up internally, please send myself (mshipman@sglaw.com) and my Paralegal, Hannah Stevenson (hstevenson@sglaw.com) an email providing us with the assigned Planner contact information along with a copy of the filing fee receipt(s).

Please don't hesitate to reach out to myself or Hannah via phone or email with any questions you may have following your initial review of the consolidated Expansion request.

Thank you,



MARK D. SHIPMAN
mshipman@sglaw.com
Voice Message #310

MDS:hst
Enclosures
cc: Client

CONSOLIDATED COMPREHENSIVE PLAN AMENDMENT AND CONDITIONAL USE PERMIT WRITTEN STATEMENT

APPLICANT:

SAR Environmental, LLC
7950 NW Lone Pine Road
Terrebonne, OR 97760

OWNER:

Carlleen C. Hegele, Trustee
Charles and Carlleen Hegele Revocable Trust
7950 NW Lone Pine Road
Terrebonne, OR 97760

APPLICANT'S REPRESENTATIVE:

Mark D. Shipman, Attorney
Saalfeld Griggs PC
PO Box 470
Salem, OR 97304
Phone: 503-399-1070
Email: mshipman@sglaw.com



I. INTRODUCTION AND SUMMARY

A. Applicable Criteria and Standards

The following laws and regulations may apply to the County's review of this application:

1. Oregon Administrative Rules ("OAR"), Chapter 16
2. Crook County Comprehensive Plan, Ordinance 43 (December 14, 1990)
3. Crook County Comprehensive Plan, Ordinance 51 (September 16, 1991)
4. Crook County Comprehensive Plan, Ordinance 55 (February 26, 1992)
5. Crook County Code ("CCC"), Chapter 18.16.010, Use Table
6. CCC, Chapter 18.16.015(11), Use Standards
7. CCC, Chapter 18.16.020, Conditional Use Review Criteria
8. CCC, Chapter 18.144, Aggregate Resource Sites
9. CCC, Chapter 18.160, Conditional Uses
10. CCC, Chapter 18.168, Legislative Amendments
11. CCC, Chapter 172, Administrative Decisions
12. CCC, Chapter 18.180.010, Transportation Impact Analysis
13. Oregon Revised Statutes ("ORS"), Chapter 517, Mining and Mining Claims

B. Statement of Intent & Description of Proposal

This consolidated application is being submitted for two purposes. First, SAR Environmental, LLC, an Oregon limited liability company (the "**Applicant**"), is requesting a Comprehensive Plan Amendment

to add an approximately 12.37 acre portion of the property identified as Tax Lot No. 1414090000101, Parcel No. 13107, which is commonly known as 7950 NW Lone Pine Road, Terrebonne, Oregon 97760 (the "**Property**"), to Crook County's (the "**County**") Goal 5 Surface Mineral & Aggregate Inventory (the "**CPA**"). In accordance with CCC 18.168.010(2), amendments to the text of the Comprehensive Plan require a legislative hearing before the Crook County Planning Commission and a hearing before the Crook County Court. Adding the Property to the County's Goal 5 Surface Mineral & Aggregate Inventory also requires the Applicant to demonstrate compliance with OAR, Division 16.

Second, the Applicant is also requesting a conditional use permit to allow mining, crushing, and stockpiling of aggregate and other subsurface material in the Exclusive Farm Use Two ("**EFU-2**") zone (Exclusive Farm Use – Prineville Valley – Lone Pine Areas) (the "**CUP**"). Operations conducted for mining, crushing or stockpiling of aggregate and other mineral and subsurface resources in the EFU-2 zone are permitted as conditional uses subject to the requirements of CCC 18.16.015(11) and 18.144 *et seq.* CCC 18.160.010. Procedurally, this CUP request to allow for the mining of aggregate on the Property also requires a public hearing before the Crook County Planning Commission.

The Applicant hereby requests that the County process the CPA and CUP concurrently and issue separate findings for each in accordance with CCC 18.17.025 (collectively, herein the "**Application**"). In addition, the Applicant consents to (i) conditioning approval of the CUP upon approval of the CPA; and (ii) tolling the applicable final action deadline for the CUP to allow the Crook County Court to hear both the CPA and CUP concurrently.

C. Background on the Property and Surrounding Area

As shown on the last deed of record, which is attached hereto and incorporated herein as **Exhibit 101**, the Charles and Carleen Hegele Revocable Trust, under trust dated April 2, 2015, (the "**Trust**"), is the owner of the Property.¹ As required under the CUP Application, the Historical Tax Lot Card is attached hereto and incorporated herein as **Exhibit 102**, and the historical deed that first described the Property in its current configuration, is attached hereto and incorporated herein as **Exhibit 103**.

The Applicant is an Oregon limited liability company that was established by the Hegele family to operate the mining operation on the Property. The Applicant uses the aggregate products for various types of construction, including single-family and multi-family residences, and limited commercial projects.

Due to the nature of aggregate resources in terms of the location and characteristics of the Property, and the steps required for the material to be obtained and used, the business requires a long-term source of supply. The Applicant's current aggregate resource site (the "**Lone Pine Quarry**") is nearing depletion, which is why the Applicant has engaged in advance planning efforts to secure expanded operating permit approval for future aggregate resources to sustain its' business.

The Property and all surrounding properties are zoned EFU-2. In total, the Property is approximately 277.73 acres in size and abuts NW Lone Pine Road to the west, which is a county road, as is shown on Applicant's Proposed Permit Boundary Survey, which is attached hereto and incorporated

¹ In addition to the owner's residence, Tax Lot ID No. 1414090000101 contains machine sheds, hay sheds, and general-purpose buildings.

herein as **Exhibit 104**. There are no mapped natural hazards on the proposed mining site nor is it mapped in a special flood hazard area.

In addition to the mining operation, the Hegele family farms the western (irrigated) portion of the Property for hay for their horse and cattle operation, as shown on the Irrigation Map attached hereto and incorporated herein as **Exhibit 105**. A copy of the Applicant's historical water rights documentation is attached hereto and incorporated herein as **Exhibit 106**. In addition, the Hegele family leases the adjoining irrigated property to the south, from the Butler family, for hay.

In 2016, the Hegele family received approval by the Crook County Court (March 16, 2016/ Ordinance 292) to add the current nine (9) acre mining site to the County's inventory of significant mineral and aggregate resource sites, as a "3C" site, and by adopting the ESEE (Economic, Social, Environment, and Energy) analysis.² At the same time, the Hegele family also received approval to mine the 9 acre site through a CUP approval.³ In 2021, the Hegele family received approval from the County to modify the approved site plan to include the designated area for stockpiling within the 9 acre mining site.⁴ The current mining site includes a 6-acre mining area on the sloped portion of the mining site where the Applicant mines 2-acre cell areas, then reclaims that mined area, while moving to the next 2-acre cell. There are existing stockpile areas, a processing area, an office building, and a haul road that enters off of NW Lone Pine Road on the south end of the Property. There are 8' – 10' tall berms and poplar trees along the western boundary of the current mining area that buffer views from NW Lone Pine Road.

The Hegele family also has approval to mine the 9-acre site through the Oregon Department of Geology and Mineral Industry ("**DOGAMI**"), a copy of the current operating permit for permit number 07-0150, is attached hereto and incorporated herein as **Exhibit 107**. The Hegele family will be subsequently applying with DOGAMI to expand the mining site by approximately 12.37 acres.

Land uses in the surrounding area consist of irrigated pasture and cropland in the bottom of the Crooked River Valley to the north and south. As you move further to the west and east, you leave the Valley floor and the land slopes uphill to lands that are non-irrigated and non-farmed, which is where the Applicant's current mining operation lies. To the northeast of the Property lies property being mined by High Desert Aggregate and Paving. To the south of the Property lies property that is being mined by Knife River.

As stated in the Mineral Resource Evaluation prepared by the Wallace Group, Inc., dated October 3, 2023 (the "**MRE Report**"), approximately 779,000 Tons of soil, cobble, and tuffaceous sedimentary rock are located within the proposed 12.37 acre expansion area. A copy of the MRE Report is attached hereto and incorporated herein as **Exhibit 108**.

As shown on Applicant's Existing Permit Boundary Survey (See, Exhibit 104), access to the proposed mining site is provided off of NW Lone Pine Road. As shown on Applicant's Site Plan, the primary access to the mining site consists of a private gravel road ("**Haul Road**") that extends east from NW Lone Pine Road on the south end of the Property that leads up to the mining area. The Site Plan, which includes an Existing Structures Map, is attached hereto and incorporated herein as **Exhibit 109**. The access point

² Application number 217-15-000100-PLNG

³ Application number 217-15-000236-PLNG

⁴ Application number 217-21-000532-PLNG

includes a locking gate and a scale. The northern most access point onto the Property, also NW Lone Pine Road, serves as the primary access to the Trust's residence, and as such the Applicant does not use this access for the current, or proposed mining activities.

As a result of the topography of the proposed mining site, and Applicant's proposed extraction plan, only a small section of the proposed expanded mining area will be visible from NW Lone Pine Road from the south and west. The proposed mine will not be visible from adjacent properties to the north and east.

D. Reasons for Request

The Applicant is seeking this combined request as their current mining operation is nearing depletion. Approval of this Application will allow the Applicant to mine the proposed 12.37 acre mining site in three (3) acre cells, while reclaiming the current cells prior to expanding to the next cell. Materials will be processed on site at the current processing area on the existing nine (9) acre mining site, and then will allow the Applicant to transport topsoil for landscaping projects and aggregate for construction purposes. There will be no concrete or asphalt batch plants on the proposed mining site. The proposed mining area will be reclaimed in accordance with DOGAMI rules and permitting requirements.

As stated in the MRE Report, the proposed mining site contains approximately 799,000 Tons of soil, cobble, and tuffaceous sedimentary rock and thus is a significant inventory site (3C) eligible for inclusion on the County's Goal 5 Surface Mineral & Aggregate Inventory in accordance with OAR 660-16-0005(C). Once the proposed mining site is added to the County's Goal 5 Surface Mineral & Aggregate Inventory, mining of aggregate is permitted on the proposed mining site as a conditional use. CCC 18.160.010. The applicable approval criteria are set out in italics below, with the Applicant's proposed findings following in plain type.

II. COMPREHENSIVE PLAN AMENDMENT

The Application includes a CPA to the Crook County Comprehensive Plan (the "***Comprehensive Plan***") to add the proposed mining site to the County's Significant Mineral and Aggregate Inventory (Goal 5). Goal 5 establishes a state policy "to conserve open space and protect natural resources" including mineral and aggregate resources. See OAR 660, Division 15. The Comprehensive Plan states that the County "shall insure that significant inventory sites are designated for mineral and aggregate in accordance with the Goal 5 requirement." Comprehensive Plan, pg. 137.

OAR 660, Division 16 includes the administrative rules for implementing Goal 5 and adding new sites to the County's Goal 5 Surface Mineral & Aggregate Inventory.⁵ Additional County Policies that provide the framework for the Goal 5 Process include Ordinance 43 (December 14, 1990), Ordinance 51 (September 16, 1991), and Ordinance 55 (February 26, 1992). Specifically, Ordinance 51, as amended by

⁵ The County adopted Ordinance 43 (December 14, 1990) in response to the Department of Land Conservation and Development's enforcement order (Order 89-EO-656), which established plan policies for the County's Goal 5 mineral and aggregate sites. Subsequently, the County Adopted Ordinances 51 and 55 in 1991 and 1992, respectively. Since the County has not entered periodic review since 1992, the CPA is not subject to review pursuant to OAR 660, Division 23 but instead is subject to review in accordance with OAR 660, Division 16.

Ordinance 55 states as follows:

A mineral and aggregate resource site that is not on a County's Goal 5 Surface Mineral & Aggregate Inventory shall be placed on the inventory of significant sites and shall be conserved and protected for surface mining after all the following conditions are met:

- a. *A report is provided by a certified geologist, engineer or other qualified person or firm verifying the location, type, quantity and quality of the resource.*
- b. *The site is determined to be a significant 1C site after reviewing all available evidence regarding the location, quality, and quantity of the mineral and aggregate resource and the site is added by amendment to the comprehensive plan; and*
- c. *There are no conflicting uses of the ESEE analysis results in a determination that the resource is important relative to conflicting resources, uses and thither applicable statewide planning goals and policies.*

A. STANDARD OF REVIEW

1. OAR 660-016-0000 – Determining the Significance of the Resource Site

Oregon Administrative Rules 660-016-0000 outlines the requirements and procedures for complying with Statewide Goal 5 (natural resources). In addition, Crook County Ordinance 43 includes policies to establish the location, quality and quantity of mineral and aggregate resources.

Under OAR 660-016-0000(2): A "valid" inventory of a Goal 5 resource under subsection (5)(c) of this rule must include a determination of the location, quality, and quantity of each of the resource sites. Some Goal 5 resources (e.g., natural areas, historic sites, mineral and aggregate sites, scenic waterways) are more site-specific than others (e.g., groundwater, energy sources). For site-specific resources, determination of location must include a description or map of the boundaries of the resource site and of the impact area to be affected, if different. For non- site-specific resources, determination must be as specific as possible.

Ordinance 43 requires the following information:

1. A legal description of the mining area;
2. The highway/mile post designation (if available)
3. A description of the impact area (if different); and
4. A map of the boundaries of the resource site and the impact area to be affected (if different).

Location:

The proposed 12.37 acre expansion area is located within the Trust-owned Property to the south of the current permitted area and can be best seen on the Site Plan (See, Exhibit 109), which includes a

surveyed boundary area for the proposed mining site expansion area. The Existing Structures Map (See, Exhibit 109, pg. 2), shows all of the structures on the Property, the type of use and setbacks to, and from, the property lines. The Impact Area Map, see **Exhibit 110**, shows both a 500-foot boundary from the mining area, and a 1500-foot boundary from the proposed mining area. Figure 2 in the MRE Report (See, Exhibit 108) shows the existing permit boundary, and Exhibit 104 shows the proposed permit (mining area) boundary.

Quality and Quantity:

OAR 660, Division 16 does not include any standards that specify the minimum quality and quantity of an aggregate resource that constitutes a significant resource but requires some consideration of the resource site's relative value compared to other examples of the same resources found in the County. There have been several geotechnical reports completed on the Trust property in the general area of the proposed expansion area. An initial report was completed by Carlson Geotechnical in 2002 for the quality of the aggregate, see **Exhibit 111**, and by Kleinfelder, Inc, in 2002, see **Exhibit 112**, for the Applicant's original proposal to mine a 24-acre site. This information was evaluated by the Wallace Group in 2015, see **Exhibit 113**, and again by the Wallace Group in 2023 for this Application, (See, Exhibit 108). For the 2023 MRE Report the Wallace Group assessed the commercial aggregate potential of the proposed 12.37-acre expansion area by visiting the site and observing nine (9) test pits to determine the quality of the material. Bulk samples were collected for lab analysis and are included in the Report at Appendix A, Figures A-1 – A-9. Based on the lab analysis, the samples collected by the Wallace Group for the 2023 MRE Report are consistent with the other reports conducted by Carlson Geotechnical and the Wallace Group. The aggregate consists primarily of a rock fall deposit consisting of Columbia River Basalt (CRB). The geotechnical reports also contain both quality and quantity information.

Quality:

The Wallace Group performed multiple tests in accordance with Oregon Department of Transportation (ODOT) test methods in order to test the quality of the aggregate. Samples of the aggregate were tested for durability. The samples were subjected to abrasion, air degradation, sand equivalent, and unit weight testing. The ¾ - inch minus crushed aggregate samples met the ODOT abrasion requirements of ASTM C131 (maximum of 35% loss by weight), sand equivalent requirements of ASTM D2419 (not less than 30), and the air degradation requirements of ODOT TM 208 (less than 30% passing the #20 sieve and sediment height not exceeding 3.0 inches). The Wallace Group found that after processing, the CRB produces high quality construction aggregate that "can be used for state/municipal road construction, and private development applications." See, Exhibit 108.

Quantity:

The Wallace Group estimates that 779,000 tons of soil, cobble, and tuffaceous sedimentary rock material are available for mining within the 12.37-acre expansion site. Several sand and gravel sites were included on the County's original inventory of aggregate resources in Ordinance 43 and most of these sites were ranked as "2" with material being sufficient for fill and concrete. Based on the quantity and quality of the aggregate located on the Property, the County can find that the Property is a significant resource (3C) for inclusion on the County's Goal 5 Surface Mineral & Aggregate Inventory.

Additional Criteria:

County Ordinance No. 51 (as amended by Ordinance No. 55):

Policy 3: The County shall insure that significant inventory sites are designated for mineral and aggregate.

Policy 9: Crook County's plan policy is to classify each significant resource site according to current available data on location, quality and quantity, and regulate each site according to its classification. Crook County will not allow expansion of any site without additional data. Therefore, in order to expand mining operations on a mineral or aggregate site into an area not currently designated for mining, the operator must provide the best information available regarding quantity, quality, and location of the resource in the proposed expansion area to update plan data. An ESEE analysis shall be required if the expansion area is found to be a significant Goal 5 resource based on location, quality, and quantity information.

RESPONSE: The Applicant is requesting an expansion of an existing site. They specifically hired the Wallace Group to conduct a detailed analysis (MRE Report) of the quantity, quality, and location of the resource within the proposed expansion area in order to update the County's Goal 5 Surface Mineral & Aggregate Inventory. All of the data in the MRE Report points to the fact that the proposed mining site should be added to the County's Goal 5 Surface Mineral & Aggregate Inventory as an expansion of an existing site.

CONCLUSION:

The information above describes how the proposed mining site meets the requirements for location, quality, and quantity and should be added to County's Goal 5 Surface Mineral & Aggregate Inventory. As discussed above, the MRE Report provided by a certified geologist verifies the location, type, quantity, and quality of the resource and the County can find that the proposed mining site, as expanded, is a significant aggregate resource requiring protection as a 3C site. Section III. C. below includes a discussion of conflicting uses and how the ESEE analysis, results in a determination that the resource is important relative to conflicting resources, uses, and other applicable statewide planning goals. As a result, the proposed mining site can be added to the County's Goal 5 Surface Mineral & Aggregate Inventory as a 3C site.

2. OAR 660-016-005- Identification of Conflicting Uses and ESEE Analysis

1. *It is the responsibility of local government to identify conflicts with inventoried Goal 5 resource sites. This is done primarily by examining the uses allowed in broad zoning districts established by the jurisdiction (e.g., forest and agricultural zones). A conflicting use is one which, if allowed, could negatively impact a Goal 5 resource site. Where conflicting uses have been identified, Goal 5 resource sites may impact those uses. These impacts must be considered in analyzing the economic, social, environmental and energy (ESEE) consequences:*

RESPONSE: The Comprehensive Plan has identified the following conflicting uses in the EFU- 2 zoning district.

Uses Permitted Outright: Farm dwellings.

Conditional Uses: Public or private schools, churches, commercial activities in conjunction with farm use, secondary farm dwellings, private parks, campgrounds, fishing and hunting preserves, public parks and playgrounds, home occupations, boarding horses for profit, non-farm dwellings, personal use airports.

The 1500-foot impact area contains two farm dwellings. Both dwellings are more than 500 feet away from the active and proposed mining site.

2. *Preserve the Resource Site: If there are no conflicting uses for an identified resource site, the jurisdiction must adopt policies and ordinance provisions, as appropriate, which ensure preservation of the resource site.*
3. *Determine the Economic, Social, Environmental, and Energy Consequences: If conflicting uses are identified, the economic, social, environmental and energy consequences of the conflicting uses must be determined. Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. The applicability and requirements of other Statewide Planning Goals must also be considered, where appropriate, at this stage of the process. A determination of the ESEE consequences of identified conflicting uses is adequate if it enables a jurisdiction to provide reasons to explain why decisions are made for specific sites.*

RESPONSE: Since conflicting uses have been identified, the economic, social, environmental, and energy (“ESEE”) consequences of the conflicting uses must be determined. The County Adopted Ordinance No. 43 on December 14, 1990, which addressed the County’s compliance with the Goal 5 process. Notably, the County has already analyzed the ESEE consequences for mining uses in the EFU-2 zone. The CCC, which implements the Comprehensive Plan, allows mining uses as conditional uses in the EFU-2 zone. The requirements for the conditional use must be satisfied prior to use of a property for a mining operation and these conditions ensure the minimization of impacts on resources sites and conflicting uses within the “Impact Area.” A full discussion of the site-specific analysis is in Section III. C., below.

3. OAR 660-016-0010 – Develop Program to Achieve the Goal

Based on the determination of the economic, social, environmental and energy consequences, a jurisdiction must “develop a program to achieve the Goal.” Assuming there is adequate information on the location, quality, and quantity of the resource site as well as on the nature of the conflicting use and ESEE consequences, a jurisdiction is expected to “resolve” conflicts with specific sites in any of the following three ways listed below. Compliance with Goal 5 shall also be based on the plan’s overall ability to protect and conserve each Goal 5 resource. The issue of adequacy of the overall program adopted or of decisions made under sections (1), (2), and (3) of this rule may be raised by the Department or objectors, but final determination is made by the Commission, pursuant to usual procedures:

1. *Protect the Resource Site: Based on the analysis of the ESEE consequences, a jurisdiction may determine that the resource site is of such importance, relative to*

the conflicting uses, and the ESEE consequences of allowing conflicting uses are so great that the resource site should be protected and all conflicting uses prohibited on the site and possibly within the impact area identified in OAR 660-016-0000(5)(c). Reasons which support this decision must be presented in the comprehensive plan, and plan and zone designations must be consistent with this decision.

2. *Allow Conflicting Uses Fully: Based on the analysis of ESEE consequences and other Statewide Goals, a jurisdiction may determine that the conflicting use should be allowed fully, notwithstanding the possible impacts on the resource site. This approach may be used when the conflicting use for a particular site is of sufficient importance, relative to the resource site. Reasons which support this decision must be presented in the comprehensive plan, and plan and zone designations must be consistent with this decision.*
3. *Limit Conflicting Uses: Based on the analysis of ESEE consequences, a jurisdiction may determine that both the resource site and the conflicting use are important relative to each other, and that the ESEE consequences should be balanced so as to allow the conflicting use but in a limited way so as to protect the resource site to some desired extent. To implement this decision, the jurisdiction must designate with certainty what uses and activities are allowed fully, what uses and activities are not allowed at all and which uses are allowed conditionally, and what specific standards or limitations are placed on the permitted and conditional uses and activities for each resource site. Whatever mechanisms are used, they must be specific enough so that affected property owners are able to determine what uses and activities are allowed, not allowed, or allowed conditionally and under what clear and objective conditions or standards. Reasons which support this decision must be presented in the comprehensive plan, and plan and zone designations must be consistent with this decision.*

RESPONSE: As stated above, mining uses are permitted on the proposed mining site as conditional uses that must satisfy the criteria listed in CCC 18.16.015(11) and 18.144, *et seq.* A majority of the conflicting uses are permitted as conditional uses subject to the specific criteria listed in the CCC. In addition, the closest farm dwelling is located outside the 500' Impact Area, but inside the 1,500' Impact Area. Thus, the County has decided to limit conflicting uses in accordance with OAR 666-16-0010(3)(C). The EFU-2 zone designation of the Property is thus consistent with the County's decision regarding conflicting uses. In the event that additional limitations are required on surrounding properties in the Impact Area, they may be provided as conditions of any subsequent approval. As a result, the proposed mining site should be added to the County's Goal 5 Surface Mineral & Aggregate Inventory as a 3A site.

4. OAR 660-016-0015 – Post Acknowledgement Period

1. *All data, findings, and decisions made by a local government prior to acknowledgment may be reviewed by that local government in its periodic update process. This includes decisions made as a result of OAR 660-016-0000(5)(a), 660-016-0005(1), and 660-016-0010. Any changes, additions, or deletions would be made as a plan amendment, again following all Goal 5 steps.*

RESPONSE: This Application includes an amendment to the CPA and outlines compliance with all Goal 5 steps.

2. *If the local government has included in its plan items under OAR 660-016-0000(5)(b), the local government has committed itself to take certain actions within a certain time frame in the post-acknowledgment period. Within those stated time frames, the local government must address the issue as stated in its plan, and treat the action as a plan amendment.*

RESPONSE: This criteria is not applicable.

5. OAR 660-016-0020- Landowner Involvement

1. *The development of inventory data, identification of conflicting uses and adoption of implementing measures must, under Statewide Planning Goals 1 and 2, provide opportunities for citizen involvement and agency coordination. In addition, the adoption of regulations or plan provisions carries with it basic legal notice requirements. (County or city legal counsel can advise the planning department and governing body of these requirements.) Depending upon the type of action involved, the form and method of landowner notification will vary. State statutes and local charter provisions contain basic notice requirements. Because of the nature of the Goal 5 process as outlined in this paper it is important to provide for notification and involvement of landowners, including public agencies, at the earliest possible opportunity. This will likely avoid problems or disagreements later in the process and improve the local decision-making process in the development of the plan and implementing measures.*
2. *As the Goal 5 process progresses and more specificity about the nature of resources, identified conflicting uses, ESEE consequences and implementing measures is known, notice and involvement of affected parties will become more meaningful. Such notice and landowner involvement, although not identified as a Goal 5 requirement is in the opinion of the Commission, imperative.*

RESPONSE: An amendment to the Comprehensive Plan requires a hearing before the Crook County Planning Commission and Crook County Court. CCC 18.168.010(2). All hearings require notice in accordance with CCC 18.172.070.

6. OAR 660-016-0030 -Mineral and Aggregate Resources

1. *When planning for and regulating the development of aggregate resources, local governments shall address ORS 517.750 to 517.900 and OAR chapter 632, divisions 1 and 30.*
2. *Local governments shall coordinate with the State Department of Geology and Mineral Industries to ensure that requirements for the reclamation of surface mines are incorporated into programs to achieve the Goal developed in accordance with OAR 660- 016-0010.*

3. *Local governments shall establish procedures designed to ensure that comprehensive plan provisions, land use regulations, and land use permits necessary to authorize mineral and aggregate development are coordinated with the State Department of Geology and Mineral Industries. Local governments shall amend comprehensive plans and land use regulations, as necessary, no later than January 1, 1993.*
4. *The provisions of this rule shall be effective immediately.*

RESPONSE: Use of the proposed mining site for a mining operation is permitted as a conditional use pursuant to the CCC. As discussed below, CCC 18.144.060(7) requires that all mining, storage, and processing operations conform to all the DOGAMI standards including ORS 517.750 to 517.900. Specifically, ORS 517.790(1)(h) requires a reclamation plan to be approved by DOGAMI. Compliance with the applicable DOGAMI requirements, including obtaining an operating permit and submitting a reclamation plan, can also be satisfied with appropriate conditions of approval. The Reclamation Plan for the proposed expansion area is attached hereto as **Exhibit 114** and the Applicant's proposed conditions of approval are attached hereto as **Exhibit 115**.

CONCLUSION:

For the above reasons, the proposed expansion of the mine operation on the Property complies with the criteria for a CPA to include the proposed mining site expansion on the County's Goal 5 Surface Mineral & Aggregate Inventory.

III. CONDITIONAL USE

Operations conducted for mining, crushing or stockpiling of aggregate and other mineral and subsurface resources in the EFU-2 zone are permitted as conditional uses subject to the requirements of CCC 18.16.015(11), 18.16.020, and 18.144.030 - 18.144.060. The proposed mining operation includes (i) mining of more than 1,000 cubic yards of material; (ii) the storage of mining equipment and materials in a 20-foot shipping container; and (iii) a portable office, including a small septic system.

14. APPROVAL CRITERIA – CCC, CHAPTER 18.16.015(11) – Use Standards in EFU-2 Zone for Mining, Crushing and Stockpiling of Aggregate

Mining, crushing or stockpiling of aggregate and other mineral and subsurface resources are subject to the following:

- a. *A land use permit is required for mining more than 1,000 cubic yards of material or excavation preparatory to mining of a surface area of more than one acre.*

RESPONSE: This Application includes a request for a CUP to permit mining of more than 1,000 cubic yards of material.

- b. *A land use permit for mining of aggregate shall be issued only for a site included on the mineral and aggregate inventory in the Crook County comprehensive plan.*

RESPONSE: This Application includes a request to include the Property on the mineral and aggregate inventory in the Crook County Comprehensive Plan.

- c. *Mining, crushing, stockpiling and process of aggregate and other mineral subsurface resources are subject to the provisions of Chapter 18.144 CCC.*

RESPONSE: Compliance with the requirements of Chapter 18.144 CCC are discussed below.

15. APPROVAL CRITERIA – CCC, CHAPTER 18.16.020 – Conditional Use Permit Review Criteria for Permitted Conditional Uses in the EFU-2 Zone.

An applicant for a use permitted as a conditional use “C” in Table 1 must demonstrate compliance with the following criteria and specific requirements for conditional uses in Chapter 18.160 CCC:

1. *The use will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use;*

RESPONSE: The proposed mining use will not force a significant change in accepted farm practices on lands devoted to farm use. Adjacent farm uses include grass and alfalfa hay production, pasture and livestock grazing to the north, south and west of the Property. The Applicant owns and farms the irrigated farmland adjacent to the western edge of the mining area and leases the abutting farmland on the Butler property (1414160000101) directly to the south. These lands will remain in agricultural production without any need to change practices. In fact, Richard Butler has submitted a letter in support of the proposed expansion of the mining operation, see **Exhibit 116**. The farmland to the west of the Property is substantially buffered from the mining operation by the central location of the mining operation, being over 1000’ east of the owner’s westerly property line and NW Lone Pine Road. Due to the location of the mining operation and the physical separation from abutting properties, those abutting properties would not have to change farming practices because of the expansion of the mining operation. The properties to the east are hilly and mostly undeveloped consisting of soils not suitable for agriculture. The property to the north is used for agricultural purposes, but because the mining operation is centrally located in the middle of the Property, and the mining operation is over 1000 feet away from the property line to the north. This indicates that expansion of the existing mining operation would not require a change in accepted farm practices on the property to the north. Properties to the northeast are owned and contain an active mine run by High Desert Aggregate and Paving. The mining area on the Property is operated on soils not suitable for farming, consisting mostly of Class 6 to Class 8 soils. Mining on the Property would not require a change in any farm practices that exist on the surrounding properties.

None of the surrounding lands are devoted to forest use.

2. *The use will not significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use; and*

RESPONSE: The proposed mining use will not significantly increase the cost of accepted farm practices on surrounding land. The proposed mining use is nearly imperceptible from the surrounding properties. As mentioned above, the farm uses to the west enjoy a substantial buffer from the mining operation. The existing mining operation is located on the southern half of the Property which means that the farm uses

to the north also enjoy a substantial buffer from the mining operation. As mentioned above, the Applicant farms the farmland to the south of the Property. The Applicant will see no increases in the costs associated with their farming operation due to the expansion of the mining operation. The properties to the east are largely undeveloped and are sheltered from the mining operation by a substantial ridgeline on the eastern edge of the Property. All of this indicates that the mining operation will not have a significant impact on the costs associated with the surrounding lands devoted to farm use in the area.

None of the surrounding lands are devoted to forest use.

3. *The proposed use will be compatible with vicinity uses, and satisfies all relevant requirements of this title and the following general criteria:*

a. *The use is consistent with those goals and policies of the comprehensive plan which apply to the proposed use;*

RESPONSE: This Application includes a CPA and a full discussion on the proposal's consistency with the Comprehensive Plan and other applicable County policies and regulations in Section II, above.

b. *The parcel is suitable for the proposed use considering its size, shape, location, topography, existence of improvements and natural features;*

RESPONSE: The Property is suitable for the development of a mining operation because of the substantial aggregate resources available for extraction. The site is in a rural area with substantial distance between the mining area and other uses. The extraction area as proposed would use a small portion of land near the middle of the 277.73-acre Property, similar to the current operation, only extending south to the property line at the southern edge of the property. In addition, the storage and processing areas will continue to be at the current location, behind a berm that has been planted with 160 Poplar trees that form an additional vegetative buffer. These natural and manmade features of the property, combined with appropriate conditions of approval, make it suitable for mining.

c. *The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs or prevents the use of surrounding properties for the permitted uses listed in the underlying zoning district;*

RESPONSE: The Property is located in the EFU-2 Zone which includes some of Crook County's most productive irrigated cropland. The EFU-2 Zone allows mining as a conditional use on EFU-2 land. The portion of the Property that can be feasibly irrigated and farmed remains as farmland, while the mining operation takes place on steeply sloped land on the central and eastern portions of the property with soils not suitable for agricultural use. As demonstrated above, surrounding properties can continue their existing agricultural uses indicating that allowing expansion of the mining operation would not change the character of the area. Because the mine is located in the central portion on a large (greater than 80 acre) parcel, the impacts beyond the property lines of the Property are extremely limited. New conflicting uses could be constructed on surrounding properties without falling into the 500-foot or 1500-foot Impact Areas. The County's control over siting can also influence where new conditional uses are sited, and that control can ensure that the character of the surrounding area is maintained. Moreover, the Applicant has been operating their current mining operation from the Property since 2016 without complaints. This can

be attributed to the Applicant's mining operational characteristics, and adhering to the conditions of approval under their current mining permit.

- d. The proposed use is appropriate, considering the adequacy of public facilities and services existing or planned for the area affected by the use; and*

RESPONSE: Public facilities are adequate to support the proposed use. The Applicant intends to improve the driveway to the Property and its connection to NW Lone Pine Road, but otherwise the Property requires no new infrastructure. The on-site roads will be maintained in accordance with County road standards. Upon approval of the CUP, the Applicant will provide a letter of agreement to the County to maintain the road to the applicable County road standards.

- e. The use is or can be made compatible with existing uses and other allowable uses in the area.*

RESPONSE: The Property has farmland to the north, west, and south that is developed with residences and a variety of other accessory buildings. The land to the east of the Property consists of uneven, hilly terrain with steep slopes that remains largely undeveloped. Because the mining operation is centrally located on a large lot, the impacts of the mining operation are unlikely to impact the surrounding uses. The closest residential uses are still over 1000 feet from the mining site, indicating that the mining operation as proposed is compatible with the existing and allowed uses of the surrounding properties.

CONCLUSION: For the above reasons, the proposed mining operation on the Property complies with the Approval Criteria listed in CCC 18.16.020.

16. APPROVAL CRITERIA – CCC, CHAPTER 18.144.040 – For Mining Activities Under a Comprehensive Plan ESEE Analysis

- 1. Notwithstanding any provisions in this title to the contrary, an application for a permit for a use listed in CCC 18.144.030 shall be allowed if it meets the following criteria:*

- a. The site must be designated as a mineral or aggregate resource site or an energy source site on an inventory of significant Goal 5 resources in the comprehensive plan;*

RESPONSE: This Application includes a request to include the Mining Area on the County's inventory of significant Goal 5 resources in the Comprehensive Plan. Based on the MRE Report, the proposed Mining Area qualifies as a significant Goal 5 mineral and aggregate resource site under the County's Comprehensive Plan.

- b. The proposed use must be consistent with the applicable ESEE analysis and conditions contained in the comprehensive plan. In the event conditions imposed on the mining use by the comprehensive plan to mitigate mining impacts on specific conflicting uses are less restrictive than conditions necessary to address these same impacts under the standards of this section, the conditions imposed by the comprehensive*

plan control;

RESPONSE: The Applicant has prepared an ESEE analysis (below) to justify the inclusion of the Mining Area, as a Goal 5 resource. Conditions of approval for the CUP authorizing the expansion of Applicant's mining operation will be imposed by the Planning Commission, that will limit the mining operation based on the ESEE analysis, findings and conclusions. These conditions will include limitations on the mining operation, hours of operation, reclamation plan, compliance with DOGAMI and other requirements necessary to comply with the comprehensive plan.

The following requirements are also included in the Comprehensive Plan:

1. *A report is provided by a certified geologist, engineer or other qualified person or firm verifying the location, type, quantity and quality of the resource.*

RESPONSE: Attached as Exhibit 108, is the MRE Report provided by a certified geologist, engineer or other qualified person or firm verifying the location, type, quantity and quality of the resource.

2. *The site is determined to be a significant 1C site after reviewing all available evidence the regarding location, quality, and quantity of the mineral and aggregate resource and the site is added by amendment to the comprehensive plan; and*

RESPONSE: Section II, above, demonstrates that the Property is a significant 3C site. This Application also includes a request for an amendment to the Comprehensive Plan.

3. *There are no conflicting uses of the ESEE analysis results in a determination that the resource is important relative to conflicting resources, uses and other applicable statewide planning goals and policies.*

RESPONSE: As stated in the ESEE analysis, the resource is important relative to conflicting resources, uses, and other applicable statewide planning goals and policies. Specifically, the following uses have been identified as potential conflicting uses in the Comprehensive Plan:

Uses Permitted Outright: Farm dwellings.

A few farm dwellings exist around the mining operation. They are all over 1000 feet from the active mining operation and associated storage of aggregate materials. Three dwellings fall into the 1500-foot Impact Area. The closest dwelling to the mining operation lies to the south on the northwest corner of Tax Lot 1414160000101 where the Applicant's driveway meets NW Lone Pine Road. The dwelling is nearly 1000 feet away from the boundary of the proposed mining area. This dwelling has been coexisting with the mining operation on the Property since it was first approved, and the proposed expansion would not move active mining any closer to this dwelling. The second dwelling within the Impact Area is owned by the Applicant and is on the northern property line of the Property. This dwelling is over 1000 feet away from the mine area boundary and the Applicant has no concerns about the proximity of the dwelling to the mining operation. Finally, a farm dwelling falls within the 1500-foot Impact Area on Tax Lot 1414080000600 to the west of the Property. This dwelling is over 1000 feet away from the mining area and has been coexisting with the mining operation since it was initially approved. The proposed expansion will

shift active mining further and further away from the dwelling over time indicating that the expansion would not create any new adverse impacts on this dwelling. In the Applicant's prior comprehensive plan application (217-15-000100-PLNG) the Applicant proposed to 1) plant trees on an existing berm; 2) limit operating hours; 3) phase mining operations; and, 4) restrict all processing to a central area within the current nine (9) acre mining site in order to mitigate impacts to the farm dwellings in the vicinity of the current mining site. In this case, the Applicant is also proposing to maintain the berm and trees; limit operating hours; phase mining operations and restrict all processing to the current processing area on the current mining site.

Conditional Uses:

Public or private schools, churches, commercial activities in conjunction with farm use, secondary farm dwellings, private parks, campgrounds, fishing and hunting preserves, public parks and playgrounds, home occupations, boarding horses for profit, non-farm dwellings, personal use airports. None of these uses presently exist or are proposed within the Impact Area.

Economic Impacts:

Allowing mining on the Property would have positive economic impacts because the mine creates jobs and also provides aggregate resources within the County at a lower cost than aggregate that is transported from outside of the County. Additionally, allowing the expansion of the mine would not have negative economic impacts. Allowing the mining operation does not limit the allowable economic uses of surrounding properties, indicating that positive economic effects will be produced by both the mining operation and the agricultural operations on surrounding properties.

Social Impacts:

Because the mining operation is located in the middle of the Property and the Property is such a large lot, the social impacts are limited because the mine is far away from both the nearest public roadway and surrounding residential uses. The mine is visually obscured from NW Lone Pine Road by trees which also offer beneficial buffers of noise related to the mining operation. Restrictions on operating hours also mitigate any negative social issues related to nearby residential uses.

Environment Impacts:

The Property will be reclaimed as required under Oregon law and the Applicant is required to submit a reclamation plan to DOGAMI. See, Exhibit 114 for Applicant's proposed Reclamation Plan. There are no anticipated groundwater or surface water conflicts. Any dust problems resulting from excavation can be controlled by watering and use of proper excavation techniques, which will be regulated by the Applicant's DOGAMI operational permit. There is no indication that the site impacts protected wildlife habitat. The environmental impacts of not allowing mining at the site could include greater impacts related to the transportation of aggregate produced by using alternative sites further away from County projects.

Energy Impacts:

There are no existing conflicting uses within the Impact Area. Energy impacts of not allowing

mining at the site include greater energy costs of transporting aggregate from more distant sites outside the County.

Other Statewide Goals:

- Goal 1

The County requires notice to adjacent property owners and a public hearing before the Planning Commission and the Crook County Court prior to adoption of any Comprehensive Plan amendment.

- Goal 2

The Property and Impact Area are zoned EFU-2, and quarrying and mining are conditional uses on the Property and within the Impact Area.

- Goal 3

A portion of the Property is currently used for irrigated agriculture. The mining operation takes place on the section of the Property that is uneven and not feasibly usable for agriculture. Even with the expansion of the mining operation as proposed herein, agricultural operations will continue on the Property. No long-term impacts to agricultural production or land are anticipated.

- Goal 4

No forest lands are located on the Property or in the Impact Area.

- Goal 5

The proposed mining use will not conflict or impact any other Goal 5 resources.

- Goal 6

The proposed mining operation will not negatively impact groundwater or surface water resources. Any air quality impact will be mitigated by standard quarrying techniques, which are required by the Department of Environmental Quality (“*DEQ*”) and DOGAMI.

- Goal 7

There are no natural hazards within the Impact Area.

- Goal 8

There are no recreation facilities on the Property nor in the Impact Area and thus the proposed mining use will not impact recreation in the area.

- Goal 9

The proposed mining use will have little if any negative economic effects. Allowing the mining operation would, in fact, have positive economic effects because the resources produced will be sold for a myriad of uses within the County.

- Goal 10

There is one dwelling located on the Property that is well over 500 feet away from the mining site. Utilization for the Property as an aggregate resource site will have no direct impact on the supply of housing in the County because surrounding properties are zoned EFU-2, and are unlikely to be approved for residential development.

- Goal 11

No public facilities or services are required for the proposed use on the Property, nor are any located within the Impact Area. Sewer service is not required and the property is sufficiently served by a well.

- Goal 12

There are no public transportation facilities located within the Impact Area. The Applicant estimates a total of 34 truck trips per day (17 trucks outgoing and 17 trucks incoming).

- Goal 13

Use of the site as a source of aggregate will result in lower energy costs than use of a more distant site outside the County.

- Goal 14

No urban development is located within the Impact Area.

- Goals 15-19

Goals 15-19 are not applicable to Crook County.

- c. The proposed use must be shown to not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use.*

RESPONSE: The proposed use would not force a significant change in accepted farm or forest practices. See response to CCC 18.16.020(1) above for thorough analysis.

- d. The proposed use must be shown to not significantly increase the cost of*

accepted farm or forest practices on surrounding lands devoted to farm or forest use; and

RESPONSE: The proposed use does not significantly increase the cost of accepted farm or forest practices. See the response to CCC 18.16.020(2) above for thorough analysis.

- e. There must be adequate public facilities and services (street capacity, water supply, police protection, fire protection, energy and communications services) available to meet the additional demands created by the proposed use or that can be made available through the orderly and efficient extension or expansion of these facilities and services.*

RESPONSE: There are adequate public facilities to meet the demand created by the proposed use. In this case, the Applicant is merely seeking an expansion of the existing quarry. As a result, the infrastructure needed to support the use is already in place. The Applicant has agreed to improve the mine access road where the roadway connects to NW Lone Pine Road in order to improve the transportation facilities serving the mining site.

- 2. An applicant for a use allowed by CCC 18.144.030 may demonstrate that these standards for approval could be satisfied through the imposition of conditions. Any conditions so imposed shall be clear and objective.*

RESPONSE: The Applicant acknowledges that appropriate conditions will be required for approval of this Application. For example, under the current mining permit, conditions of approval include: access approach permit from the mining area to Lone Pine Road, traffic mitigation, days and hours of operation, dust mitigation, lighting, earth berm and vegetation in front of processing area, limiting the 'disturbed area' of mining and reclamation, weed control, surface water runoff control, blasting restrictions, and other permits from DOGAMI and DEQ.

- 3. To the extent compliance with the approval criteria of this section has been determined as part of the identification and resolution of conflicting uses and development of a program to achieve goal compliance in the comprehensive plan, the determination shall be binding until changed by amendment to the plan.*

RESPONSE: This Application includes a site specific ESEE analysis and program to achieve goal compliance.

- 4. No application shall be approved to allow batching and blending of mineral and aggregate into asphalt cement within two miles of a planted vineyard.*

RESPONSE: No planted vineyards are located within two miles of the Property.

CONCLUSION: For the above reasons, the proposed mine operation on the Property complies with the Approval Criteria listed in CCC 18.144.040.

B. APPROVAL PROCEDURE and REQUIRED INFORMATION - CCC, CHAPTER 18.144.050 – For Mining Application.

1. *Each application for approval shall be processed in accordance with Chapter 18.172 CCC and this chapter.*
2. *The hearing authority shall review the application and shall grant or deny approval based on conformance of the application with the requirements of this chapter and with the appropriate site-specific or generic ESEE analysis in the comprehensive plan.*
3. *The hearing authority may only require modifications to the application as are necessary to fulfill the requirements of this chapter and the appropriate site-specific or generic ESEE analysis. Any modifications must be clear and objective.*
4. *The hearing authority shall deny approval only if the requirements of this chapter or the ESEE analysis are not or cannot be satisfied by the proposed application.*
5. *Prior to establishing a use authorized by this chapter, the property owner or agent must receive approval from the county.*

RESPONSE: The CUP application will be processed pursuant to CCC, Chapter 18.172. A site specific ESEE Analysis is also included with this Application.

6. *In addition to all information required for a site reclamation plan by DOGAMI, the applicant shall submit the following information:*
 - a. *An application for a site plan approval shall contain suitable maps, drawings and narrative to assure the requirements of this chapter can and will be met. A complete application must contain the following information:*
 - i. *A complete application form from the county.*

RESPONSE: Included with this Application is an applicable Site Plan (See, Exhibit 109), showing processing area, stockpiling area, berm, planted poplar trees, proposed mining areas (cells) and haul road, the Applicant also included a proposed Impact Area Map (See, Exhibit 110) showing both the 500-foot and 1,500-foot impact areas, also included is a survey map showing proposed mining area boundary (See, Exhibit 104), also included is a reclamation plan (See, Exhibit 114), a written narrative addressing the mandatory approval criteria, and finally, a completed application form.

- ii. *A list of known materials to be extracted or processed together with a general description of the excavation operations and the estimated duration of operation at the site.*

RESPONSE: The MRE Report attached as Exhibit 108 includes a list of known materials to be extracted or processed. The operation will remain perpetual until all materials are extracted or until operations are deemed to no longer be economically viable.

- iii. *A map of the site which shows existing trees and natural vegetation; existing water courses, including streams, rivers,*

ponds and lakes; adjacent ownerships, including the location of structures which relate to the setback or other requirements of this zone; and existing and proposed roads.

RESPONSE: The MRE Report, attached as Exhibit 108, includes a “Site Vicinity Map” at Figure 1 and Figure 2 includes an Exploration Location & Permit Boundary Map of the Property, which shows existing trees and natural vegetation. In addition, there are no existing watercourses on the Property.

- iv. A surface water management plan for the site and all phases of the operation.*

RESPONSE: There are no surface water features on the Property. All stormwater will be contained on site and a stormwater management plan will be required as part of the DOGAMI permitting process.

- v. A map which shows the location of the surface mining area, the location of all processing and storage areas, the location of caretaker dwelling (if proposed), landscaping, screening and buffer areas.*

RESPONSE: Included with this Application as Exhibit 109 is a Site Plan that shows the location of the surface mining area, as well as the location of all processing and storage areas. The Site Plan also shows the location of an earth berm and poplar trees planted on the berm used as a method of vegetative screening.

- vi. A landscape management and maintenance plan adequate to demonstrate compliance with provisions of this zone.*

RESPONSE: The Applicant has indicated landscape features necessary to comply with provisions of the zone on the Site Plan which is attached as Exhibit 109. The Applicant has maintained these landscape features since initial approval of mining on the Property and intends to continue this maintenance.

RESPONSE: A “Topographic Map” is included at Figure 3 of the MRE Report, attached as Exhibit 108.

- vii. A map or other drawing showing the contours of the site upon completion of the operation together with a description of the proposed end use of the reclaimed site.*

RESPONSE: The Applicant has submitted a proposed reclamation plan, which is attached hereto as Exhibit 114. Ultimately, the mined area will be reclaimed consistent with an approved DOGAMI reclamation plan.

- viii. An environmental report from an engineer or other qualified professional which is adequate to demonstrate that the operation can conform to county, DEQ, and DOGAMI requirements as outlined in the “development standards” section of this zone (CCC 18.144.060).*

RESPONSE: The current mining operation complies with County, DEQ and DOGAMI requirements as

outlined in the development standards of CCC 18.144.060. If necessary, the Applicant can provide an environmental report demonstrating that the proposed mining operation can comply with the development standards noted above as a condition of approval.

ix. *A security plan addressing the following issues:*

- A. *Lighting;*
- B. *Fencing;*
- C. *Gates at access points;*
- D. *Water impoundments;*
- E. *Sloping; and*
- F. *Security of vehicles and equipment.*

RESPONSE: No operations are to be conducted at night so no lighting will be placed on the site. The Applicant has installed a gate at the end of the proposed haul road which is closed and locked when the site is not in operation. Due to the slope, the mining site will not create any depression or water impoundments. The Applicant will maintain the existing site drainage to the east.

x. *A noxious weed control plan, acceptable to the Crook County weed master, to control the spread of noxious weeds within and arising from the aggregate resource site. This plan must be implemented in accordance with ORS 569.380 through 569.400 and 569.445 through 569.450 and Chapter 8.24 CCC.*

RESPONSE: No noxious weeds have been observed on the Property. The Applicant will document compliance with the noxious weed control plan submitted pursuant to CCC 18.144.050(6)(a)(xi) on a yearly basis.

CONCLUSION: For the above reasons, the proposed mining operation complies with the mandatory approval criteria found in CC 18.144.050.

C. DEVELOPMENT STANDARDS – CCC, CHAPTER 18.144.060 – For Mining Activities.

Upon approval of a conditional mining use application, all the following standards apply:

1. *Mining activities shall be located and conducted at least:*

- a. *One hundred feet from an existing noise or dust sensitive use, unless the owner of the residence or use signs and files an agreement which authorizes the mining to be conducted closer than 100 feet. In no case shall such mining be conducted closer than 50 feet of the boundary of an adjacent ownership.*
- b. *One hundred feet from a road not owned by the applicant and from the property line of the applicant unless that distance is not sufficient to protect the adjoining property from land movement, or the threat of land movement. In such cases, the setback shall be the minimum distance required by DOGAMI that will protect the adjoining property from movement or the threat of movement. This setback shall*

be reviewed and approved by DOGAMI prior to being approved by the hearing authority. In no case shall the setback be less than 100 feet.

RESPONSE: As shown on the Site Plan attached as Exhibit 109, the proposed mining use will be setback at least 50 feet from the property lines and roads not owned by the Applicant. Notwithstanding the foregoing, there are no noise or dust sensitive uses located within 100 feet of the mining operation.

2. *Processing of resource material and the storage of equipment shall be at least 500 feet from an existing noise or dust sensitive use, unless the owner of the residence or use signs and files an agreement which authorizes the processing of resource material or storage of equipment closer than 500 feet. In no case shall such activities be located closer than 100 feet from any adjacent dwellings.*

RESPONSE: There are no noise or dust sensitive uses located within the 500 foot Impact Area, and there are no dwellings located within 100 feet of the proposed use. This criterion is satisfied.

3. *Access. All private roads from mining sites to public highways, roads or streets shall be paved or graveled. All on-site roads and access roads from the site to a public road shall be designed, constructed, and maintained to accommodate the vehicles and equipment which use them. Whether paved or graveled, the roads shall be maintained by the applicant in accordance with county road standards. Before the applicant may exercise the privileges of the permit, the applicant shall provide a letter of agreement to the county to maintain the road to the applicable county road standards. If the applicant fails to provide the letter of agreement prior to exercising the privileges of the permit, or fails to so maintain the road, the applicant shall submit an agreement and security in accordance with CCC 17.40.080 and 17.40.090.*

RESPONSE: As mentioned above, the Applicant has graveled the roadways on the Property associated with the current mining operation and the Applicant maintains these roadways in accordance with County road standards. Upon approval of the CUP, the Applicant will provide a letter of agreement to the county to maintain the access and haul roads to the applicable County road standards

4. *Effective vehicle barriers or gates shall be required at all access points to the site.*

RESPONSE: A lockable gate exists at the connection between the Applicant's private driveway which functions as the current mining operation haul road and NW Lone Pine Road.

5. *Screening. Unless inconsistent with the conditions imposed to protect conflicting uses under the comprehensive plan, or of minimal value of effectiveness because of topography or other site features, the following requirements apply to the mining or resource site:*
 - a. *Berms, fencing or vegetation shall be maintained or established to block the view of the mining or resource site from conflicting uses;*

RESPONSE: The mining operation exists near the center of a large 277-acre parcel. As a part of the current mining operation the Application has built and established a berm and vegetative buffer which have mitigated the effect of the mining operation on surrounding properties. The Site Plan (See, Exhibit 109),

shows the location of a line of poplar trees which are a method of vegetative screening. These trees effectively create a visual barrier between the current and proposed processing area and the surrounding properties and roads.

- b. *To the extent feasible, all natural vegetation and trees located within 100 feet of the mining site and that block the view of the mining area shall be preserved and fences maintained for the purpose of screening the operation.*

RESPONSE: The Applicant intends to maintain all existing screening measures. This criterion is satisfied.

- 6. *No alteration or removal of riparian vegetation located within 100 feet of the banks of a year-round stream shall occur.*

RESPONSE: No alteration or removal of riparian vegetation located within 100 feet of the banks of a year-round stream is proposed. No such streams exist on the Property.

- 7. *Mining, storage, and processing operations shall conform to all standards of the Department of Environmental Quality and to the requirements of the Department of Geology and Mineral Industries (DOGAMI). The county may require information, data and analyses which demonstrates the ability to meet state environmental standards.*

RESPONSE: Mining, storage, and processing operations will conform to all standards of DEQ and to the requirements of DOGAMI. The Applicant is applying for an operating permit from DOGAMI and this criterion can be satisfied with relevant conditions of approval.

- 8. *Hours of Operation. All mining extraction, processing and equipment operation shall be subject to the following limitations unless waivers authorize operation at other times:*
 - a. *June 1st through October 31st: 6:00 a.m. to 9:00 p.m., Monday through Friday. 8:00 a.m. to 5:00 p.m., Saturday.*
 - b. *November 1st through May 31st: 7:00 a.m. to 6:00 p.m., Monday through Friday. 8:00 a.m. to 5:00 p.m., Saturday.*
 - c. *No operations shall be conducted on Sundays or the following legal holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, Christmas Day.*

RESPONSE: The Applicant will comply with any conditions of approval related to hours of operation and otherwise will comply with the hours in this section. This criterion is satisfied.

9. *Blasting*

- d. *A plan addressing the potential for earth movement, flying rock, and other effects on surrounding uses shall be submitted.*
- e. *Blasting shall be allowed unless prohibited by the comprehensive plan ESEE analysis.*

- f. *Blasting which is allowed and which is not to be conducted within 500 feet of any noise or dust sensitive use or agricultural use involving the raising of animals shall meet the following standards:*
- g. *DEQ noise control standards for blasting.*
- h. *Blasting shall be restricted to the hours of 9:00 a.m. to 5:00 p.m., Monday through Friday. No blasting shall occur on Saturdays, Sundays or legal holidays.*
- i. *The operator shall be responsible for notifying the owners and inhabitants of conflicting uses located within 500 feet of the blasting site by written notice delivered by certified mail to be received by each person entitled to notice at least 48 hours prior to the time the blasting will occur.*

RESPONSE: The Applicant will adhere to all blasting standards identified in this section. In the initial permit application to approve mining on the site, the County allowed blasting subject to conditions. The Applicant agrees to abide by those, and any other conditions of approval related to blasting.

- 10. *Surface and Ground Water Management. Surface water shall be managed to provide protection against ground or surface water contamination and sediment discharge into streams, rivers and lakes. There shall also be adequate water available to the site for reclamation of the property, maintenance of screening and buffer, dust control, landscape maintenance, and processing of materials.*

RESPONSE: The Applicant is required to obtain an operation permit from DOGAMI, which will include a reclamation plan. The Applicant will also comply with all DOGAMI and DEQ requirements regarding surface and ground water management.

- 11. *For surface mining, which is not regulated by DOGAMI, the following requirements apply:*

RESPONSE: The proposed mining use is regulated by DOGAMI and this criterion is not applicable.

- 12. *All mining operations shall be subject to the dimensional standards, yard restrictions, sign limitations and all other substantive standards set out in the zoning district applicable to the property.*

RESPONSE: The proposed mining operation, including all proposed buildings, will comply with all dimensional standards, yard restrictions and sign limitations applicable to the EFU-2 zoning district, as shown on the Existing Structures Map (See, Exhibit 109, pg. 2).

- 13. *Noxious Weed Control. The operator, including all public agencies, shall document compliance with the noxious weed control plan submitted pursuant to CCC 18.144.050(6)(a)(xi) on a yearly basis by submittal of a written report to the Crook County weed master. The report shall be submitted not later than December 15th of each year. (Ord. 296 § 10 (Exh. H), 2016; Ord. 238 § 1, 2011; Ord. 230 § 2, 2010; Ord. 18§ 11.060, 2003)*

RESPONSE: No noxious weeds have been observed on the Property. The Applicant will document compliance with the noxious weed control plan submitted pursuant to CCC 18.144.050(6)(a)(xi) on a yearly basis. This criterion can be satisfied with appropriate conditions of approval.

CONCLUSION: For the above reasons, the proposed mining operation on the Property complies with the Development Standards of CCC 18.144.060.

D. APPROVAL CRITERIA – CCC, CHAPTER 18.160.020 – General Criteria for Approving a Conditional Use Permit.

In judging whether or not a conditional use proposal shall be approved or denied, the planning director or planning commission shall weigh the proposal's appropriateness and desirability or the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed and, to approve such use, shall find that the following criteria are either met, can be met by observance of conditions, or are not applicable:

- 1. The proposal will be consistent with the comprehensive plan and the objectives of the zoning ordinance and other applicable policies and regulations of the county.*

RESPONSE: This Application includes a CPA and a full discussion of the consistency of the proposal with the comprehensive plan and other applicable policies and regulations of the County is included in Section II, above.

- 2. Taking into account location, size, design and operation characteristics, the proposal will have minimal adverse impact on the (a) livability, (b) value and (c) appropriate development of abutting properties and the surrounding area compared to the impact of development that is permitted outright.*

RESPONSE: The mining operation is currently located near the middle of a large 277.73-acre parcel. It has been operating since the initial approval of the operation in 2016. The livability, value, and development possibilities of surrounding properties would not be impacted by allowing the expansion of the mining operation. First, the mining operation is already in place and has been operating successfully with no calls or complaints relating to noise and dust. The conditions of approval that were imposed on the initial mining application worked. Second, the proposed expansion will be located in the same central area of the Property, operating in the same manner, with extraction occurring in 3-acre cells that are then reclaimed as the operation moves to the next cell (area). The proposed expansion extends the mining operation further to the east and south, and would have similar impacts to the surrounding agricultural area as the current operation. Third, the large parcel size of the Property effectively contains the potential impacts of the mining operation to the borders of the Property with very minimal effects spilling over onto surrounding properties. As a result, the adverse impacts to surrounding properties are minimal.

- 3. The location and design of the site and structures for the proposal will be as attractive as the nature of the use and its setting warrant.*

RESPONSE: The mining operation takes place in a rural area dominated by agricultural uses. The mining

operation is setback substantially from the nearest roadway, NW Lone Pine Road, by over 1000 feet at the mine's closet point to the road. This setback area is occupied by fields used for agriculture which makes the Property blend in with surrounding uses. In addition to the setback, the mine is also bordered by an earth berm and row of poplar trees which further obscure the visibility of the processing area from the road. With both of these features visually obscuring the mining operation from the roadway and surrounding properties, the design of the site successfully makes the operation as attractive as the nature of the use and setting as possible.

4. *The proposal will preserve assets of particular interest to the county.*

RESPONSE: As discussed above, the MRE Report provided by the registered geologist and professional engineer, verifies the location, type, quantity, and quality of the resource and the County can find that the Property is a significant site. Section III. C. includes a discussion of conflicting uses and how the ESEE analysis results in a determination that the resource is important relative to conflicting resources, uses, and other applicable statewide planning goals. As a result, the County can find that this criterion is satisfied.

5. *The applicant has a bona fide intent and capability to develop and use the land as proposed and has some appropriate purpose for submitting the proposal, and is not motivated solely by such purposes as the alteration of property values for speculative purposes.*

RESPONSE: The Applicant has a bona fide intent and capability to develop and use the land as proposed and is not motivated solely by such purposes as alteration of property values for speculative purposes. The Applicant got approval to initiate mining on the Property in 2016. The Applicant has engaged in mining the area since that approval and has in fact nearly mined all of the resources within the original approval area. The goal of applying for this expansion is to allow the mine to continue operating as it has on the Property. The Applicant already has all of the infrastructure needed to continue mining in place on the Property, and as a result, the Applicant has both bona fide intent and capability to engage in further mining at the Property.

CONCLUSION: For the above reasons, the proposed mine operation on the Property complies with the Approval Criteria listed in CCC 18.160.020.

E. APPROVAL CRITERIA - CCC, CHAPTER 18.160.050(9) – Specific Standards Governing Mining, Quarrying, or Other Extraction Activity in the EFU-2 Zone.

9. *Mining, Quarrying or Other Extraction Activity.*
 - a. *Plans and specifications submitted to the planning director or planning commission for approval must contain sufficient information to allow the planning director or planning commission to consider and set standards pertaining to the following:*
 - i. *The most appropriate use of the land.*
 - ii. *Setback from the property line.*
 - iii. *The protection of pedestrians and vehicles through the use of fencing and*

- screening.*
- iv. The protection of fish and wildlife habitat and ecological systems through control of potential air and water pollutants.*
 - v. The prevention of the collection and the stagnation of water of all stages of the operation.*
 - vi. The rehabilitation of the land upon termination of the operation.*

RESPONSE: The mining operation exists near the center of a large 277-acre lot. As a result, the mining operation is barely visible from any of the surrounding properties and the effects of mining on surrounding properties is minimal.

As shown on the Site Plan attached as Exhibit 109, the proposed mining use will be setback roughly 1000 feet from the property line and roadway to the west of the Property, substantially exceeding the 50 - 100 foot required setback in the CCC. The mine will also be substantially setback from the northern and eastern property lines by roughly 1000 feet. The mine will meet the 50-foot setback requirement from the property line to the south. Any additional setbacks will be reviewed during the DOGAMI permitting process. Notwithstanding the foregoing, there are no noise or dust sensitive uses located within 100 feet of the proposed mining area.

The Applicant is required to obtain an operation permit from DOGAMI, which will include a reclamation plan. The Applicant will also comply with all DOGAMI and DEQ requirements regarding surface and ground water management.

- b. Surface mining equipment and necessary access roads shall be constructed, maintained and operated in such a manner as to eliminate, as far as is practicable, noise, vibration or dust which may be injurious or annoying to persons or other uses in the vicinity.*

RESPONSE: The Applicant is required to obtain an operation permit from DOGAMI and all surface mining equipment will comply with DOGAMI standards. As noted above, the Applicant has agreed to improve the driveway on the Property and the driveway's connection to Lone Pine Road by paving and maintaining it to help reduce the impacts of dust and unnecessary debris from entering Lone Pine Road. The on-site roads can accommodate the anticipated truck traffic of 34 trucks per day. The on-site roads will be maintained in accordance with county road standards. Upon approval of the conditional use, the Applicant will provide a letter of agreement to the County to maintain the road to the applicable county road standards.

- c. The comments and recommendations of all appropriate natural resource agencies of the state and federal government shall be sought.*

RESPONSE: The County will solicit comments from affected agencies through the CUP process. As a result, this criterion is satisfied.

- d. A rock crusher, washer or sorter shall not be located closer than 500 feet from a residential or commercial use.*

RESPONSE: As shown on the Site Plan, the processing area is located in the center of the Property, greater

than 500 feet from all property lines and greater than 1000 feet from the nearest residential use.

CONCLUSION: For the above reasons, the proposed mining operation on the Property complies with the Approval Criteria listed in CCC 18.160.050.

IV. CONCLUSION FOR APPLICANT'S CONSOLIDATED REQUEST

For the reasons stated above, all applicable criteria are met for this Application for the proposed expansion of the existing mining operation on the Property or can be met through reasonable conditions of approval, as Applicant has proposed (See, Exhibit 115). As such, this Application can be approved, and the Applicant respectfully requests that the Application be approved with standard conditions of approval.

EXHIBIT LIST:

Exhibit 101 – Last Deed of Record

Exhibit 102 – Historical Tax Lot Card

Exhibit 103 – Configuration Deed

Exhibit 104 – Proposed Permit Boundary Survey

Exhibit 105 – Irrigation Map

Exhibit 106 – Historical Water Rights Documentation for Irrigation

Exhibit 107 – Current DOGAMI Permit No. 07-0150 Operating Permit

Exhibit 108 – Wallace Group Mineral Resource Evaluation (MRE) Report

Exhibit 109 – Site Plan & Existing Structures Map

Exhibit 110 – Impact Area Map

Exhibit 111 – Carlson Geotech Study 2002

Exhibit 112 – Kleinfelder, Inc. Geotech Study 2002

Exhibit 113 – Wallace Group Geotech Study 2015

Exhibit 114 – Proposed Reclamation Plan

Exhibit 115 – Proposed Conditions of Approval

Exhibit 116 – Richard Butler Letter in Support

After recording return to:
Charles and Carleen Hegele, Trustees
7950 N. Lone Pine Road
Terrebonne, OR 97760

Unless a change is requested, send tax statements to:
Charles and Carleen Hegele, Trustees
7950 N. Lone Pine Road
Terrebonne, OR 97760

Crook County Official Records **2020-298453**
DEED-D
Pg=3
\$15.00 \$11.00 \$61.00 \$2.00
\$5.00 \$10.00
02/24/20 10:51 AM
Total: \$104.00



I, Cheryl Seely, County Clerk for Crook County, Oregon, certify that the instrument identified herein was recorded in the Clerk records.

Cheryl Seely - County Clerk



WARRANTY DEED

Charles G. Hegele, Jr. and Carleen C. Hegele, husband and wife, Grantors, hereby convey and warrant to Charles G. Hegele, Jr. and Carleen C. Hegele, Trustees of the Charles and Carleen Hegele Revocable Trust, utd April 2, 2015, or to such Successor Trustee(s) of such trust created under such instrument as may hereafter be appointed, Grantees, the following described real property located in Crook County, Oregon free of encumbrances except for matters of public record and those apparent upon the land, if any, as of the date of this deed:

See EXHIBIT A which is made a part hereof by this reference
TAX ACCOUNT NO. 1414-9, TL 101

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

The true and actual consideration for this transfer is [estate planning purposes].

DATED this 21st day of February, 2020.

Charles G. Hegele, Jr.

Carleen C. Hegele



STATE OF OREGON)
)
County of Deschutes)



The foregoing instrument was acknowledged before me this 21st day of February, 2020, by Charles G. Hegele, Jr. and Carleen C. Hegele.

A handwritten signature in cursive script, appearing to read "Markay Everett", written over a horizontal line.

Notary Public for Oregon

My Commission Expires: 01-15-2022

EXHIBIT A

Located in CROOK COUNTY, OREGON:

Beginning at the Southwest corner of Section 9, Township 14 South, Range 14 East of the Willamette Meridian; thence South 89 degrees 34' East 2624.88 feet to the South 1/4 corner of said Section 9, thence South 89 degrees 34' East 192.65 feet; thence North 19 degrees 41'01" East 114.54 feet; thence North 1 degree 57'41" West 558.60 feet; thence North 40 degrees 40'49" East 324.51 feet; thence North 18 degrees 50'37" East 571.12 feet; thence North 50 degrees 21'18" East 878.88 feet; thence North 63 degrees 26'07" East 263.09 feet; thence North 28 degrees 15'21" East 314.14 feet; thence North 46 degrees 06'47" West 663.64 feet; thence North 39 degrees 21'30" West 416.50 feet; thence North 36 degrees 57'21" West 331.76 feet; thence North 66 degrees 50'55" West 377.44 feet; thence North 89 degrees 39'29" West 305.71 feet; thence North 89 degrees 02'11" West 2647.55 feet to the West line of said Section 9; thence South 0 degrees 49'10" West 3628.81 feet along said West line to the point of beginning.

SUBJECT TO a 30-foot road right of way along the West 30 feet thereof.

AND EXCEPTING THEREFROM encumbrances and matters of public record including but not limited to (1) any portion of said tract of land lying in the Northeast quarter Southeast quarter of said Section 9; (2) Right of Way Agreement recorded August 19, 1960 in book 84 page 81, and corrected of record thereof; (3) Power Line Easement recorded July 12, 1989 as microfilm no. 91877; (4) any liens and encumbrances created or suffered by the Grantors.

Refer to Map included as part of Exhibit A to that Statutory Warranty Deed recorded on July 25, 1997 with recording number 135351.

14 14 9 101 101

OFFICIAL RECORD OF DESCRIPTIONS
OF REAL PROPERTY

Crook COUNTY ASSESSOR'S OFFICE

TWP.	RGE.	SEC.	1/4	1/16	PARCEL NUMBER	Type	Spec. Int. In	CODE AREA NUMBER
MAP NUMBER					REAL PROP.			
TAX LOT NUMBER								

FORMERLY PART OF 100

Indent each new course to this point	DESCRIPTION AND RECORD OF CHANGE	Date of entry on this card	Deed Record		Acres Remaining
			Vol.	PG.	
13107	EFU.2				
	Beg at the SW cor of Sec 9 T14S R14E WM; th S 89°34'E 2624.88' to the S $\frac{1}{4}$ cor of sd Sec 9; th S 89°34'E 192.65' (by agreement between Buckner & Butler); th N 19°41'01"E 114.54'; th N 1°57'41"W 558.60'; th N 40°40'49"E 324.51'; th N 18°50'37"E 571.12'; th N 50°21'18"E 878.88'; th N 63°26'07"E 263.09'; th N 28°15'21"E 314.14'; th N 46°06'47"W 663.64'; th N 39°21'30"W 416.50'; th N 36°57'21"W 331.76'; th N 66°50'55"W 377.44'; th N 89°39'29"W 305.71'; th N 89°02'11"W 2647.55' to the W line of sd Sec 9 th S 0°49'10"W 3628.81' alg sd W line to the POB. Exc: That por ly in the 1/4 SE $\frac{1}{4}$ Sec 9 T14S R14E WM Exc: Parcel 14_14_201 ~ 38.66 Buckner, Harold & Lela JV 45213 survey 9-28-83 REQUEST 241.55 Exc: Lone Pine Rd r/w 2.48 239.07 Also: (formerly parcel 14 14 201) desc same as excepted above JV 45214 38.66 9-28-83 REQUEST 277.73 Buckner, Lela I. V#52438 BSD 6-09-86 MF 77445 Buckner, Lela I. (Life Estate) Buckner, Donald H. V#52438 BSD 6-09-86 MF 79458 Buckner, Lela I. B&SD 12-06-95 MF#123786 AG Management, LLC SWD 12-06-95 MF#123787 HEGELE, Charles G JR & Carlleen C (etux) SWD 8-27-97 MF135351 WD 100699 MF151423 Deed Restriction 07-09-04 MF191396 Charles and Carlleen Hegele Revocable Trust, Hegele, Charles G. Jr. and Hegele, Carlleen C. Trustees WD 2-25-20 298453			Survey 280.21	

EXHIBIT
102

CORRECTED DEED TO CORRECT DESCRIPTION IN DEED
RECORDED ON JUNE 19, 1985
M.F. RECORD 76258
CROOK COUNTY RECORDS
BARGAIN AND SALE DEED

KNOW ALL MEN BY THESE PRESENTS, That HAROLD H. BUCKNER, hereinafter called grantor, for the consideration hereinafter stated, does hereby grant, bargain, sell and convey unto LELA I. BUCKNER, hereinafter called grantee, and unto grantee's heirs, successors and assigns all of that certain real property with the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, situated in the County of Crook, State of Oregon, described as follows, to-wit:

* See attached Exhibit A.

There is no consideration for this conveyance which is made pursuant to the terms of a property settlement agreement between grantor and grantee in a dissolution of marriage between the parties.

To Have and to Hold the same unto the said grantee and grantee's heirs, successors and assigns forever.

The true and actual consideration paid for this transfer, stated in terms of dollars, is none.

In construing this deed and where the context so requires, the singular includes the plural and all grammatical changes shall be implied to make the provisions hereof apply equally to corporations and to individuals.

In Witness Whereof, the grantor has executed this instrument this 23rd day of August, 1985; if a corporate grantor, it has caused its name to be signed and seal affixed by its officers duly authorized thereto by order of its board of directors.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

Harold H. Buckner
HAROLD H. BUCKNER

STATE OF OREGON,)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 23rd day of August, 1985, by HAROLD H. BUCKNER.

Notary Public for Oregon
My commission expires: 10/16/85



Harold H. Buckner
Route 1, Box 46
Terrebonne, Oregon 97760
Grantor's name and address
Lela I. Buckner
Route 1, Box 46
Terrebonne, Oregon 97760
Grantee's Name and address
After recording return to:
Norman W. Stewart, PC
P.O. Box 587
Medford, 97504
Name, address, zip

STATE OF OREGON)
) ss.
County of _____)

I certify that the within instrument was received for record on the ___ day of ___, 1985, at ___ o'clock __.M., and recorded in book/reel/volume No. ___ Record of Deeds of said County.

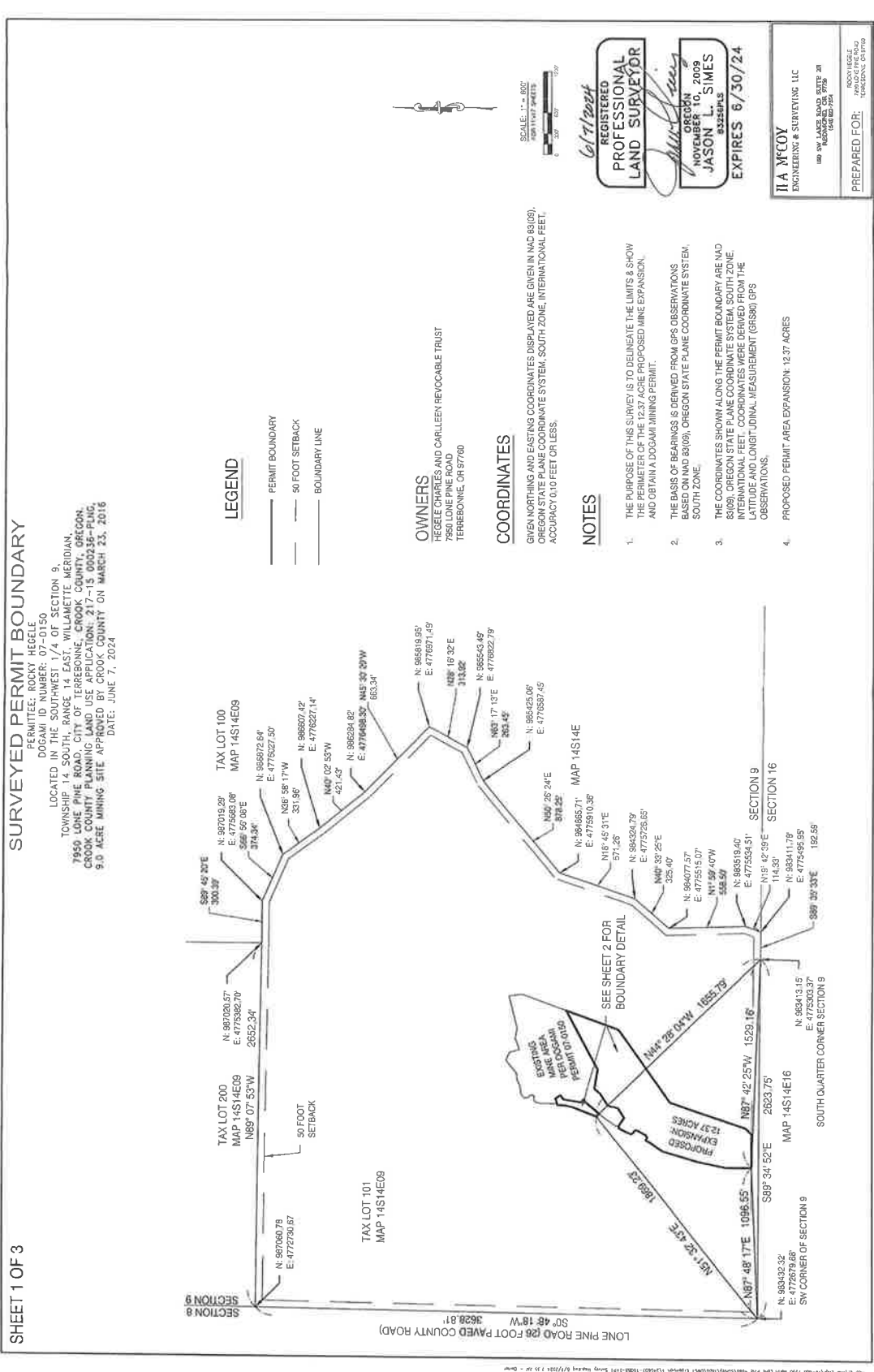
Witness my hand and seal of County affixed.

Name _____ Title _____
By _____ Deputy _____

Until a change is requested all tax statements shall be sent to the following address:

Lela I. Buckner
Route 1, Box 46
Terrebonne, Oregon 97760
Name, address, zip

EXHIBIT
103
tabbles



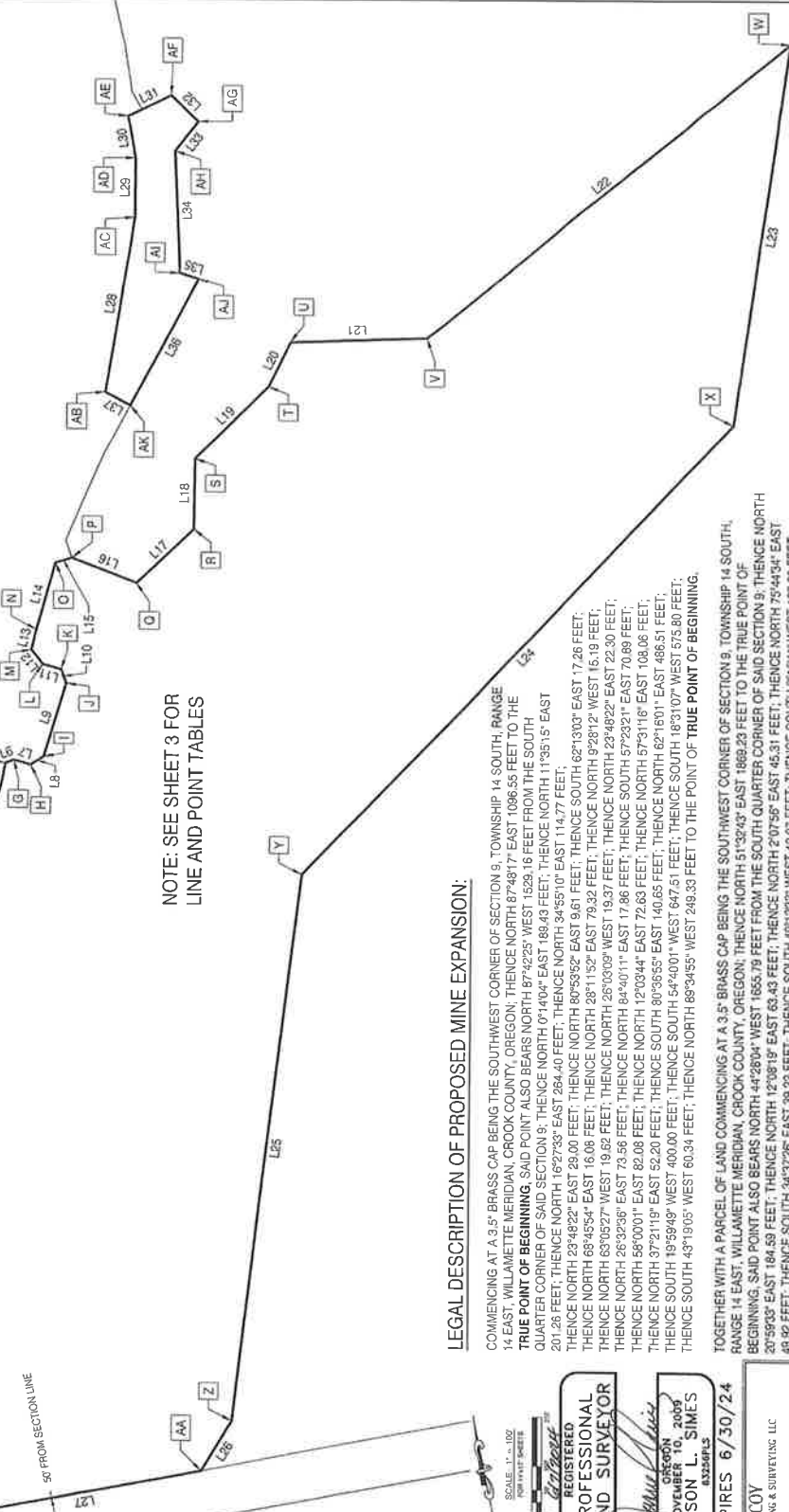
SHEET 1 OF 3

143_C:\proj\proj\14308_1390_1390\14308_1390\14308_1390\14308_1390.dwg 6/7/2024 11:13 AM - DWG

SHEET 2 OF 3

SURVEYED PERMIT BOUNDARY

PERMITEE: ROCKY HEGELE
 DODAMI ID NUMBER: 07-0150
 LOCATED IN THE SOUTHWEST 1/4 OF SECTION 9,
 TOWNSHIP 14 SOUTH, RANGE 17 EAST,
 WILLAMETTE MERIDIAN, CROOK COUNTY, OREGON,
 7950 LONE PINE ROAD, CITY OF TEPERBONNE, CROOK COUNTY, OREGON.
 CROOK COUNTY PLANNING LAND USE APPLICATION: 217-15 000236-PLUG,
 9.0 ACRE MINING SITE APPROVED BY CROOK COUNTY ON MARCH 23, 2016
 DATE: JUNE 7, 2024



NOTE: SEE SHEET 3 FOR
 LINE AND POINT TABLES

LEGAL DESCRIPTION OF PROPOSED MINE EXPANSION:

COMMENCING AT A 3.5' BRASS CAP BEING THE SOUTHWEST CORNER OF SECTION 9, TOWNSHIP 14 SOUTH, RANGE 17 EAST, WILLAMETTE MERIDIAN, CROOK COUNTY, OREGON; THENCE NORTH 87°48'17" EAST, 1096.58 FEET TO THE TRUE POINT OF BEGINNING; SAID POINT ALSO BEARS NORTH 87°42'25" WEST, 1529.16 FEET FROM THE SOUTH QUARTER CORNER OF SAID SECTION 9; THENCE NORTH 07°14'04" EAST, 188.43 FEET; THENCE NORTH 11°35'15" EAST 201.28 FEET; THENCE NORTH 16°27'33" EAST, 284.40 FEET; THENCE NORTH 34°55'10" EAST, 114.77 FEET; THENCE NORTH 23°48'22" EAST, 28.00 FEET; THENCE NORTH 80°53'52" EAST, 9.61 FEET; THENCE SOUTH 62°13'03" EAST, 17.26 FEET; THENCE NORTH 69°45'54" EAST, 16.08 FEET; THENCE NORTH 28°11'52" EAST, 79.32 FEET; THENCE NORTH 9°28'12" WEST, 16.19 FEET; THENCE NORTH 63°05'27" WEST, 19.62 FEET; THENCE NORTH 26°00'09" WEST, 19.37 FEET; THENCE NORTH 23°48'22" EAST, 22.30 FEET; THENCE NORTH 26°32'36" EAST, 73.56 FEET; THENCE NORTH 84°40'11" EAST, 17.86 FEET; THENCE SOUTH 57°23'21" EAST, 70.89 FEET; THENCE NORTH 56°00'01" EAST, 82.08 FEET; THENCE NORTH 12°03'44" EAST, 72.69 FEET; THENCE NORTH 57°33'16" EAST, 108.06 FEET; THENCE SOUTH 37°21'19" EAST, 52.20 FEET; THENCE SOUTH 80°36'55" EAST, 140.65 FEET; THENCE NORTH 62°16'01" EAST, 486.51 FEET; THENCE NORTH 19°59'49" WEST, 400.00 FEET; THENCE SOUTH 58°46'01" WEST, 647.51 FEET; THENCE SOUTH 18°31'07" WEST, 575.80 FEET; THENCE SOUTH 43°19'05" WEST, 60.34 FEET; THENCE NORTH 89°34'55" WEST, 249.33 FEET TO THE POINT OF TRUE POINT OF BEGINNING.

TOGETHER WITH A PARCEL OF LAND COMMENCING AT A 3.5' BRASS CAP BEING THE SOUTHWEST CORNER OF SECTION 9, TOWNSHIP 14 SOUTH, RANGE 17 EAST, WILLAMETTE MERIDIAN, CROOK COUNTY, OREGON; THENCE NORTH 51°32'43" EAST, 1869.23 FEET TO THE TRUE POINT OF BEGINNING; SAID POINT ALSO BEARS NORTH 44°28'04" WEST, 1655.79 FEET FROM THE SOUTH QUARTER CORNER OF SAID SECTION 9; THENCE NORTH 20°59'43" EAST, 184.59 FEET; THENCE NORTH 12°08'18" EAST, 63.43 FEET; THENCE NORTH 2°07'56" EAST, 45.31 FEET; THENCE NORTH 79°44'34" EAST, 49.42 FEET; THENCE SOUTH 34°37'26" EAST, 39.22 FEET; THENCE SOUTH 49°1'23" WEST, 40.07 FEET; THENCE SOUTH 9°15'41" WEST, 127.80 FEET; THENCE SOUTH 60°50'27" EAST, 20.50 FEET; THENCE SOUTH 39°41'56" WEST, 150.80 FEET; THENCE NORTH 50°18'24" WEST, 29.25 FEET TO THE TRUE POINT OF BEGINNING.

THE ABOVE DESCRIBED LANDS CONTAIN 12.37 ACRES OF LAND, MORE OR LESS.

REGISTERED
**PROFESSIONAL
 LAND SURVEYOR**

Jason L. Simes

OREGON
 NOVEMBER 10, 2006
JASON L. SIMES
 63292PUS

EXPIRES **6/30/24**

PREPARED FOR:

ROCKY HEGELE
 17900 S.W. 6TH ST
 TILLAMOOK, OR 97141

PREPARED BY:

J. A. McCOY
 ENGINEERING & SURVEYING, LLC
 100 SW LAUREL AVE. SUITE 200
 TILLAMOOK, OR 97141
 503-839-2324

SURVEYED PERMIT BOUNDARY

PERMITS: SMOCK HEAD
 DOGAMI ID NUMBER: 07-0150
 LOCATED IN THE SOUTHWEST 1/4 OF SECTION 9,
 TOWNSHIP 14 SOUTH, RANGE 14 EAST, WILLAMETTE MERIDIAN,
 7950 LONE PINE ROAD, CITY OF TERREBONNE, CROOK COUNTY, OREGON.
 CROOK COUNTY PLANNING LAND USE APPLICATION: 217-15.000236-PLUG,
 9.0 ACRE MINING SITE, APPROVED BY CROOK COUNTY ON MARCH 23, 2016
 DATE: JUNE 7, 2024

LINE TABLE		
LINE	BEARING	LENGTH
L1	N0° 14' 04"E	189.43'
L2	N11° 35' 15"E	201.26'
L3	N16° 27' 33"E	264.40'
L4	N34° 55' 10"E	114.77'
L5	N23° 48' 22"E	29.00'
L6	N80° 53' 52"E	9.61'
L7	S62° 13' 03"E	17.26'
L8	N69° 45' 54"E	16.06'
L9	N28° 11' 52"E	79.32'
L10	N9° 28' 12"W	15.19'
L11	N63° 09' 27"W	19.62'
L12	N26° 03' 09"W	19.37'
L13	N23° 48' 22"E	22.30'
L14	N26° 32' 36"E	73.56'
L15	N84° 40' 11"E	17.86'
L16	S57° 23' 21"E	70.89'
L17	N58° 00' 01"E	82.08'
L18	N12° 03' 44"E	72.63'
L19	N57° 31' 16"E	108.06'
L20	N37° 21' 19"E	52.20'

LINE TABLE		
LINE	BEARING	LENGTH
L21	S80° 36' 55"E	140.65'
L22	N62° 16' 01"E	486.51'
L23	S19° 59' 49"W	400.00'
L24	S54° 40' 01"W	647.51'
L25	S18° 31' 07"W	575.80'
L26	S43° 19' 05"W	60.34'
L27	N69° 34' 55"W	249.33'
L28	N20° 59' 33"E	184.59'
L29	N12° 08' 19"E	63.43'
L30	N2° 07' 56"E	45.31'
L31	N75° 44' 34"E	49.92'
L32	S34° 37' 26"E	39.22'
L33	S49° 12' 33"W	40.07'
L34	S8° 15' 41"W	127.80'
L35	S60° 50' 27"E	20.50'
L36	S39° 41' 36"W	150.80'
L37	N50° 16' 24"W	29.25'

POINT TABLE		
POINT	NORTHING	EASTING
A	983474.33	4773775.43
B	983963.76	4773776.20
C	983960.91	4773816.63
D	984114.48	4773991.54
E	984238.59	4773957.24
F	984235.12	4773968.95
G	984236.64	4773978.44
H	984228.59	4773993.71
I	984234.42	4774008.70
J	984304.33	4774046.18
K	984319.31	4774043.68
L	984328.19	4774026.19
M	984345.59	4774017.68
N	984365.99	4774026.69
O	984431.80	4774059.56
P	984433.46	4774077.34
Q	984395.25	4774137.06
R	984438.75	4774206.66
S	984508.77	4774221.84
T	984567.79	4774312.99

POINT TABLE		
POINT	NORTHING	EASTING
U	984609.29	4774344.67
V	984586.36	4774483.43
W	984812.76	47744914.06
X	984436.87	4774777.27
Y	984062.40	4774249.03
Z	983516.41	4774066.15
AA	983472.51	4774024.75
AB	984594.79	4774143.48
AC	984767.13	4774208.60
AD	984829.14	4774222.64
AE	984974.42	4774224.63
AF	984886.72	4774273.01
AG	984854.44	4774285.30
AH	984828.26	4774264.96
AI	984702.13	4774244.40
AJ	984692.15	4774282.30
AK	984576.11	4774165.98

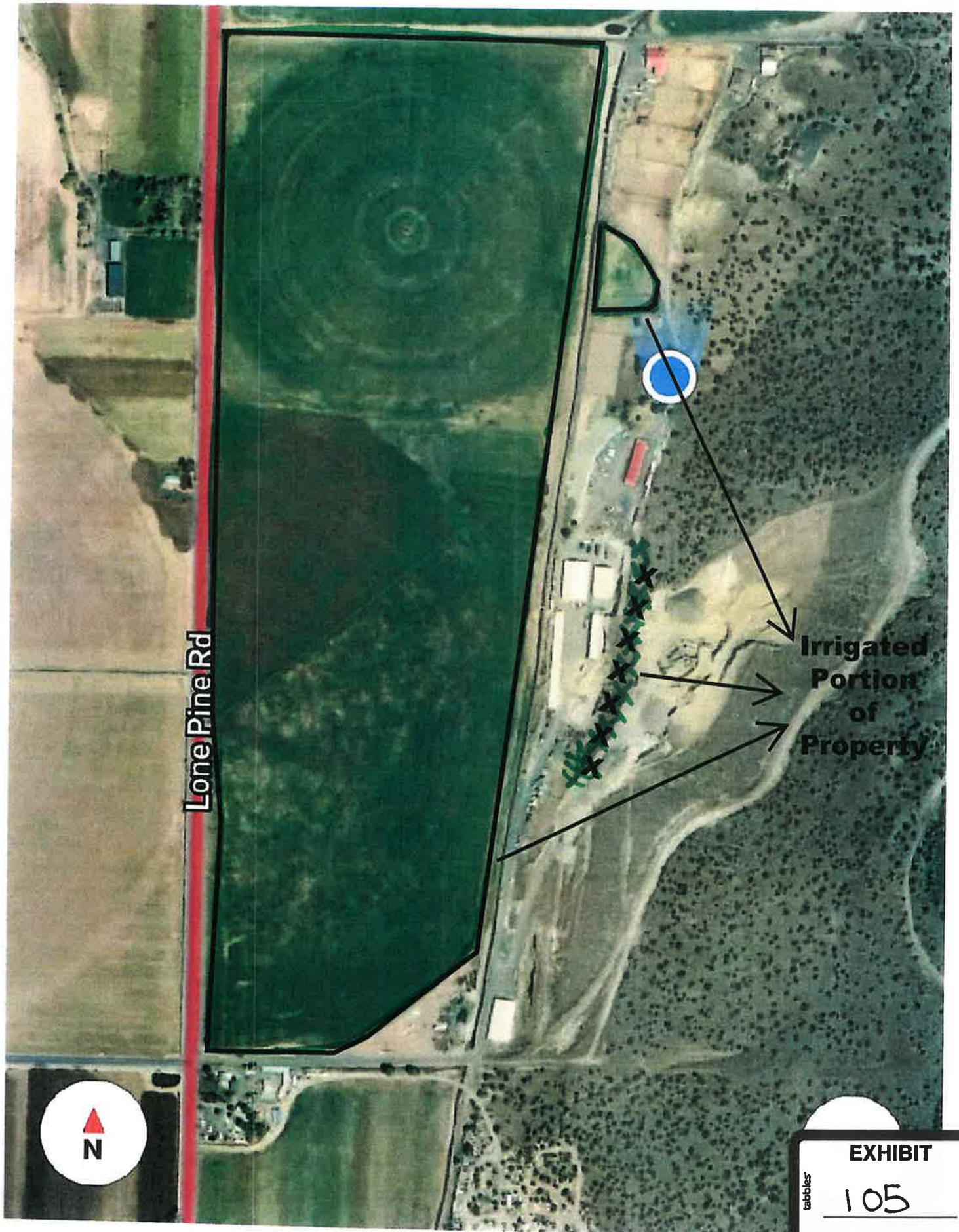
6/7/2024
 REGISTERED
**PROFESSIONAL
 LAND SURVEYOR**

 OREGON
 NOVEMBER 10, 2009
JASON L. SIMES
 83280PLS
 EXPIRES 6/30/24

JIA MCCOY
 ENGINEERING & SURVEYING LLC
 188 SW LAKE ROAD SUITE 201
 TERREBONNE, OREGON 97140
 PHONE: 503-365-2244
 FAX: 503-365-2244
 PREPARED FOR: [REDACTED]
 PROJECT: [REDACTED]
 DRAWING NO: [REDACTED]

File Name: C:\p1\8-080 7950 Mine Site Permits\07\Map\02-Crosshair\170607-1000-079 Survey Map.dwg 6/7/24 1:35 AM - DWG

IRRIGATION MAP



Lone Pine Rd

Irrigated
Portion
of
Property

N

EXHIBIT

tabbles

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CROOK COUNTY IMPROVEMENT DISTRICT #1
PO Box 357
Redmond, OR 97756
Phone (503) 548-1025

May 6, 1996

AG Management, Inc.
PO Box 25482
Portland, OR 97298-0482

Attention: David Herman

Dear Mr. Herman:

It is our understanding that you have purchased land holding Crook County Improvement District #1 water rights.

For your information, we have enclosed a copy of the Certificate of Water Right for this land, and the Oregon Resources Department Notice regarding limitations on these rights.

The landowner is responsible for the assessment even if the property has been leased to a second party.

Water will not be delivered to the land until the water assessment is paid.

Interest, at 1% per month, is charged on the unpaid balance.

Crook County Improvement District water assessments are due on July 1 and April 1 of each year. The current assessment of \$9.50 per acre for 105.5 acres (\$1,002.25), which was due on April 1, 1996, has yet to be paid. However, the service charge will be waived on this assessment, if it is paid by May 31, 1996.

Please feel free to call me if you have any questions.

Sincerely,



Rick Nissen, Secretary

jk

enc.

EXHIBIT

tabbles

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NOTICE

Each certificate enclosed confirms the water right established under the terms of a permit or transfer order issued by this department. The water right is now appurtenant to the specific place where the use was established as described by the certificate. The owner of the land is the owner of the water right. Oregon law does not allow the Director to reissue a certificate because of a change in the ownership.

The water right is limited to a specific amount of water, but not more than can be beneficially used for the purposes stated within the certificate. The water must be controlled and not wasted. To change the location of the point of diversion, the character of use, or the location of use requires the advance approval of the Water Resources Director.

If any portion of this water right is not used for five or more consecutive years, that portion would be forfeited by the nonuse. However, land enrolled in a Federal Reserve Program is not subject to forfeiture during the period of enrollment. A water right may also be forfeited by any intentional act by the owner that would cause the water right to be unusable. For example, the land irrigated under the water right is made nonirrigable by covering it with pavement or buildings.



Commerce Building
158 12th Street NE
Salem, OR 97310-0210
(503) 378-3739
FAX (503) 378-8130

STATE OF OREGON
COUNTY OF DESCHUTES
CERTIFICATE OF WATER RIGHT

THIS CERTIFICATE ISSUED TO

CROOK COUNTY IMPROVEMENT DISTRICT #1
PO BOX 357
REDMOND, OREGON 97756

confirms the right to use the waters of the DESCHUTES RIVER, a tributary of the COLUMBIA RIVER, for IRRIGATING 2,369.0 ACRES.

This right was confirmed by decree of the Circuit Court of the State of Oregon for DESCHUTES County. The decree is of record at Salem, in the Order Record of the WATER RESOURCES DIRECTOR, in Volume 12, at Page 282 and Volume 16, at Pages 146 and 396. The date of priority is OCTOBER 31, 1900.

The use is limited to 29.1 CUBIC FEET PER SECOND or its equivalent in case of rotation, measured at the Crook County Improvement District #1 weir.

The weir is located as follows:

SW ¼ SE ¼, Section 13, T. 14 S., R. 13 E., W.M.

The point of diversion is located as follows:

SE ¼ NE ¼, SECTION 29, T. 17 S., R. 12 E., W.M.; N. 36° 45' W. 1056.8 FEET
FROM THE EAST ¼ CORNER OF SECTION 29.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, is limited to a diversion not to exceed the quantity determined by the duty of water as set by decree of the Circuit Court for Deschutes County, dated March 24, 1933, being:

April 1 to May 1 & Oct. 1 to Nov. 1	1 cfs to 137.0 acres
May 1 to May 15 & Sept. 15 to Oct. 1	1 cfs to 109.0 acres
May 15 to Sept. 15	1 cfs to 86.6 acres

as measured at the Lone Pine Weir, not to exceed 4.2 acre feet for each acre irrigated during the irrigation season.

A description of the place of use to which this right is appurtenant is as follows:

<u>LOT</u>	<u>QTR/QTR</u>	<u>TAX LOT</u>	<u>ACRES</u>	<u>OWNER</u>
	SW1/4 SE1/4	900	5.60	COATS, ROBERT
	SE1/4 SE1/4	900	13.50	COATS, ROBERT
	SECTION 33			
	TOWNSHIP 13 SOUTH, RANGE 14 EAST, W.M.			

SEE NEXT PAGE

LOT	QTR/OTR	TAX LOT	ACRES	OWNER
LOT 1	(NE1/4 NE1/4)	101	18.40	COATS, ROBERT
LOT 2	(NW1/4 NE1/4)	101	19.50	COATS, ROBERT
	SW1/4 NE1/4	101	39.60	COATS, ROBERT
	SE1/4 NE1/4	101	35.20	COATS, ROBERT
LOT 3	(NE1/4 NW1/4)	101	8.80	COATS, ROBERT
LOT 4	(NW1/4 NW1/4)	101	4.80	COATS, ROBERT
	SW1/4 NW1/4	101	39.50	COATS, ROBERT
	SE1/4 NW1/4	101	38.80	COATS, ROBERT
	NE1/4 SW1/4	101	36.70	COATS, ROBERT
	NW1/4 SW1/4	101	34.80	COATS, ROBERT
	SW1/4 SW1/4	100	3.05	TACKMAN, JAMIE
	SW1/4 SW1/4	101	35.00	COATS, ROBERT
	SW1/4 SW1/4	500	0.15	TACKMAN, JAMIE
	SE1/4 SW1/4	101	39.00	COATS, ROBERT
	NE1/4 SE1/4	101	20.60	COATS, ROBERT
	NW1/4 SE1/4	101	38.40	COATS, ROBERT
	SW1/4 SE1/4	101	36.50	COATS, ROBERT
	SE1/4 SE1/4	101	11.60	COATS, ROBERT
SECTION 4				
LOT 1	(NE1/4 NE1/4)	101	2.00	STRAND, TOM
	SW1/4 NE1/4	201	15.30	STRAND, TOM
	SE1/4 NE1/4	101	39.00	STRAND, TOM
	NE1/4 SW1/4	400	19.25	STRAND, TOM
	NE1/4 SW1/4	501	8.40	STRAND, TOM
	SE1/4 SW1/4	400	3.50	STRAND, TOM
	SE1/4 SW1/4	501	22.70	STRAND, TOM
	NE1/4 SE1/4	600	3.10	VAN NOY, CLARK
	NE1/4 SE1/4	700	4.00	VAN NOY, CLARK
	NE1/4 SE1/4	701	31.50	STRAND, TOM
	NW1/4 SE1/4	501	35.50	STRAND, TOM
	NW1/4 SE1/4	600	3.65	VAN NOY, CLARK
	SW1/4 SE1/4	501	16.00	STRAND, TOM
	SW1/4 SE1/4	600	23.00	VAN NOY, CLARK
	SE1/4 SE1/4	600	3.40	VAN NOY, CLARK
	SE1/4 SE1/4	700	25.70	VAN NOY, CLARK
	SE1/4 SE1/4	702	6.80	VAN NOY, CLARK
SECTION 5				
	SE1/4 NE1/4	101	1.90	RUSSELL, ALLEN
	SE1/4 NE1/4	102	9.00	RUSSELL, ALLEN
	NE1/4 SW1/4	200	7.10	RUSSELL, ALLEN
LOT 4	(SW1/4 SW1/4)	201	7.50	BARNES, EDWARD
	SE1/4 SW1/4	201	30.40	BARNES, EDWARD
	NE1/4 SE1/4	100	23.20	RUSSELL, ALLEN
	NE1/4 SE1/4	102	15.60	RUSSELL, ALLEN
	NW1/4 SE1/4	100	9.80	RUSSELL, ALLEN
	NW1/4 SE1/4	200	18.50	RUSSELL, ALLEN
	SW1/4 SE1/4	300	35.10	FEHRENBACHER, TED
	SE1/4 SE1/4	300	36.50	FEHRENBACHER, TED
	SE1/4 SE1/4	400	0.75	CLARK, RODD
SECTION 7				
SEE NEXT PAGE				

<u>LOT</u>	<u>QTR/OTR</u>	<u>TAX LOT</u>	<u>ACRES</u>	<u>OWNER</u>
NE1/4	NE1/4	100	38.50	VAN NOY, CLARK
NW1/4	NE1/4	200	38.20	THOMPSON, LARRY
SW1/4	NE1/4	200	31.20	THOMPSON, LARRY
SW1/4	NE1/4	400	7.50	THOMPSON, LARRY
SE1/4	NE1/4	400	37.60	THOMPSON, LARRY
NE1/4	NW1/4	300	38.60	STRAND, TOM
NW1/4	NW1/4	300	13.40	STRAND, TOM
SW1/4	NW1/4	300	28.00	STRAND, TOM
SE1/4	NW1/4	300	37.20	STRAND, TOM
NE1/4	SW1/4	700	39.20	FEHRENBACHER, TED
NW1/4	SW1/4	300	38.20	STRAND, TOM
SW1/4	SW1/4	800	38.50	CALHOUN, ROBERT
SE1/4	SW1/4	900	38.20	FEHRENBACHER, TED
NE1/4	SE1/4	500	37.80	FEHRENBACHER, TED
NE1/4	SE1/4	600	1.30	FEHRENBACHER, TED
NW1/4	SE1/4	501	38.80	FEHRENBACHER, TED
SW1/4	SE1/4	1000	38.10	FEHRENBACHER, TED
SE1/4	SE1/4	1100	35.20	FEHRENBACHER, TED
SE1/4	SE1/4	1101	4.30	FEHRENBACHER, TED
SECTION 8				
NW1/4	NE1/4	200	6.30	COATS, ROBERT
NE1/4	NW1/4	200	34.95	COATS, ROBERT
NW1/4	NW1/4	200	39.20	COATS, ROBERT
SW1/4	NW1/4	101	28.50	BUCKNER, DONALD
SW1/4	NW1/4	200	10.00	COATS, ROBERT
SE1/4	NW1/4	101	4.70	BUCKNER, DONALD
SE1/4	NW1/4	200	6.50	COATS, ROBERT
NE1/4	SW1/4	101	2.70	BUCKNER, DONALD
NW1/4	SW1/4	101	37.80	BUCKNER, DONALD
SW1/4	SW1/4	101	31.80	BUCKNER, DONALD
SECTION 9				
NW1/4	NW1/4	101	24.00	BUTLER, RICHARD
SW1/4	NW1/4	101	24.50	BUTLER, RICHARD
NW1/4	SW1/4	101	24.30	BUTLER, RICHARD
SECTION 16				
NE1/4	NE1/4	100	37.80	FEHRENBACHER, TY
NW1/4	NE1/4	100	37.80	FEHRENBACHER, TY
SW1/4	NE1/4	100	38.60	FEHRENBACHER, TY
SE1/4	NE1/4	100	38.20	FEHRENBACHER, TY
NE1/4	NW1/4	100	36.00	FEHRENBACHER, TY
NW1/4	NW1/4	100	35.60	FEHRENBACHER, TY
SW1/4	NW1/4	100	23.30	FEHRENBACHER, TY
SE1/4	NW1/4	100	38.80	FEHRENBACHER, TY
NE1/4	SW1/4	100	37.90	FEHRENBACHER, TY
NW1/4	SW1/4	100	6.50	FEHRENBACHER, TY
SE1/4	SW1/4	100	15.50	FEHRENBACHER, TY
NE1/4	SE1/4	100	24.50	FEHRENBACHER, TY
NW1/4	SE1/4	100	38.60	FEHRENBACHER, TY
SW1/4	SE1/4	100	28.90	FEHRENBACHER, TY
SECTION 17				

SEE NEXT PAGE

LOT	QTR/OTR	TAX LOT	ACRES	OWNER
	NE1/4 NE1/4	100	10.00	SHOCKEY, KENNETH
	NE1/4 NE1/4	102	10.00	HOFFMAN, GENE
	NW1/4 NE1/4	101	19.40	COFFMAN, GERALD
	NE1/4 NW1/4	200	21.60	BARNES, EDWARD
LOT 1	(NW1/4 NW1/4)	200	19.10	BARNES, EDWARD
SECTION 18				
	NW1/4 NE1/4	100	23.60	BUTLER, RICHARD
	SW1/4 NE1/4	300	11.60	BUTLER, RICHARD
	NE1/4 NW1/4	100	13.40	BUTLER, RICHARD
	SE1/4 NW1/4	100	9.60	BUTLER, RICHARD

SECTION 20
TOWNSHIP 14 SOUTH, RANGE 14 EAST, W.M.

This certificate is issued to correctly describe the place of use of water rights and supersedes Certificate 68740 issued as ordered by Special Order Volume 50, Page 40, entered January 10, 1996.

The right to the use of the water for the above purpose is restricted to beneficial use on the lands or place of use described and is subject to all other conditions and limitations contained in said decree.

WITNESS the signature of the Water Resources Director, affixed


 Martha O. Pagel

Recorded in State Record of Water Right Certificates numbered 72197.

HB-3111.BWB

Water Pits

Buckner-Hegels	105.5	acres
Thompson	114.5	
Strand	348.55	
Butler	131.00	
Coats	563.25	
Ty Fehrenbocker	438.00	

*Oregon Dept. of Geology & Mineral Industries
Mineral Land Regulation & Reclamation Program
229 Broadalbin St. SW
Albany OR 97321-2246
(541) 967-2039*

**OPERATING PERMIT -- Renewal
ISSUED SUBJECT TO ANY LISTED CONDITIONS**

Chuck Hegele
7950 North Lone Pine Road
Terrebonne OR 97760

ID No.: 07-0150
Site Name: Sustainable Aggregate Resource...
County: Crook
Twp R S TL: 14S14E9 101

This permit shall be in effect, unless revoked or suspended for cause, from the date of issuance and shall remain in effect so long thereafter as the Permittee pays the annual fee to renew the permit, complies with the provisions of ORS 517.750 through 517.955 as applicable, the Rules as promulgated to administer the Oregon Mined Land Reclamation Act, the approved reclamation plan, and any conditions attached to this permit, and maintains a performance bond as required by the Act.

Issuance of this permit is not a finding of compliance with state-wide planning goals or the acknowledged comprehensive plan. The applicant must receive land-use approval from local government before using this permit.

NOTE: Reclamation plans may be modified per ORS 517.831 and OAR 632-(030) and (035)-0035.

CONDITIONS: (Conditions may be appealed per OAR 632-030-0056 or OAR 632-035-0050. If an appeal is made, this permit is invalid until the condition(s) appealed is/are resolved and the permit reissued.)

The Permittee must:

1. not allow mining operations to physically disturb any areas outside of the permit boundary.
Physical disturbance includes, but is not limited to: excavation operations, processing, stockpiling, and/or disturbances caused by landslide, erosion, or fly rock.
2. keep all processing activities at least 1,800 feet from existing residences not owned by the permittee.
3. not conduct mine or pit dewatering activities without first amending the Operating Permit to allow such activity.
4. salvage, store, and stabilize all soil and overburden materials onsite for final reclamation.
5. obtain coverage and comply with the DEQ National Pollutant Discharge Elimination System (NPDES) 1200-A permit prior to discharging stormwater or mine dewatering water from a point source to surface waters or conveyance systems that discharge to surface waters.
6. obtain coverage and comply with, the appropriate DEQ General Water Pollution Control Facilities (WPCF) permit prior to disposal of any process wastewater and stormwater by recirculation, evaporation, and/or controlled seepage with no discharge to surface water.
7. follow the "Inadvertent Discovery Plan for Cultural Resources" in the event of an inadvertent discovery of possible cultural materials.
8. establish all final excavated slopes to be 1.5H:1V or flatter. A rock lined ditch must be established every 100 lineal feet along the continuous cut slope.
9. establish all final fill slopes to be 2H:1V or flatter.
10. conduct mining in 2-acre cells with concurrent reclamation such that no more than 2 acres is actively being disturbed by mining excavation.
11. submit a fill plan meeting the requirements of OAR 632-030-0025(bb) for DOGAMI approval prior to importing any fill.
12. replace a minimum of 4 inches of growth medium on all areas on cut/fill slopes.
13. revegetate all areas to be reclaimed with a seed mixture approved by ODFW and DOGAMI.
14. control noxious or invasive plants and weeds found to be present onsite via annual or semiannual spot spraying or other means.

Issued March 6, 2024



Sarah L. Lewis
Program Manager

RENEWAL IS REQUIRED BY FEBRUARY 28, 2025

c: Crook County Planning Department

EXHIBIT

107

tabbles*



October 3, 2023

SAR Environmental, LLC
c/o Mrs. Candy Hegele
7950 NW Lone Pine Road
Terrebonne, Oregon

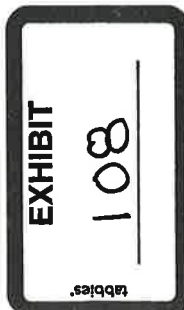
**Subject: Mineral Resource Evaluation
SAR Rock Products - DOGAMI I.D. #07-0150
Crook County Tax Lot 141409
7950 NW Lone Pine Road
Terrebonne, Oregon
Project No. 23093-1**

Dear Candy:

Wallace Group has completed a mineral resource evaluation at the SAR Rock Products site, located approximately six miles northeast of Terrebonne, Oregon (**Figure 1**, Vicinity Map). The site address is 7950 NW Lone Pine Road, it is located within the 277.7-acre property owned by Carlleen C. Hegele, Trustee of the Charles and Carlleen Hegele Revocable Living Trust, utd April 2, 2015, (the Subject Property). We understand that SAR Environmental, LLC (Client) requires an evaluation of rock (i.e. mineral) resource reserves within a proposed 12-acre surface mining expansion area (the Expansion Area). We understand that there is an existing surface mining permit on the property and the new 12-acre Expansion Area is located adjacent to the existing permitted surface mine. The purpose of this mineral resource evaluation is to help quantify and qualify the mineral resources contained within the proposed 12-acre surface mining permit boundary expansion. This evaluation was performed in general accordance with Wallace Group's Proposal, dated June 9, 2023, and authorized by Candy Hegele on June 12, 2023.

BACKGROUND

Based upon available site information and geologic literature provided by the Client and Oregon Department of Geology and Mineral Industries (DOGAMI) records, the current SAR Rock Products site includes one 9-acre surface mining permit area (DOGAMI ID: 07-0150) within the Subject Property. The Expansion Area is currently zoned for exclusive farm use (EFU2), and is located within the south-central portion of the Subject Property, as shown on **Figure 2** (Exploration Location & Permit Boundary Map). The Subject Property is bordered on the north, south and west



by private property, and the east by BLM property, which are zoned as EFU2. Additionally, the adjacent properties to the north, south, and west have had or currently do have active surface mining leases for sand, gravel, crushed stone, and topsoil. As proposed, the 12-acre Expansion Area has a 50-foot setback where the proposed permit area abuts neighboring properties to the south; Crook County Taxlots 141416 and 141400. The remaining Expansion Area boundaries are wholly-contained within the Subject Property and no setbacks are required.

GEOLOGIC SETTING

The site is located on the western flank of the foothills which comprise the western margins of the Blue Mountain physiographic province. The site is situated east of the Smith Rock State Park and lies along the northern edge of the Crooked River and Crooked River Caldera. The Crooked River Caldera is a 25-mile long, 17-mile-wide volcanic depression formed through a series of volcanic eruptions that occurred between 32 and 28 million years ago (Ma) (Seligman et. al 2014). Eruptions from the Crooked River caldera deposited large volumes of tuff and rhyolitic lavas, dikes, and domes.

South of the site, Newberry volcanic rocks overlie the regionally extensive Deschutes Formation (4-7 Ma), which includes basalt flows, andesite flows, debris flows, welded tuffs, ignimbrites, rhyolite and rhyodacite, and eroded/reworked volcanoclastic sediments (Smith, 1986; Sherrod et. al., 2004). Underlying the Deschutes Formation are older, low permeability volcanic and sedimentary rocks of the John Day, Mescal, and Clarno formations (Gannett, et al., 2001).

Undisturbed permit areas exhibit an overburden horizon of tan to light-brown, air-fall ash and pumiceous soils originating from the eruption of Mount Mazama approximately 7,700 years ago. The overburden ranges in thickness from one to ten feet. Ancient Crooked River fluvial deposits exist on-site and are predominantly fine-grained silt and sand materials with river-based sedimentary structures. Underlying the overburden is a volcanic scree/talus cobble unit that is basaltic in nature. This deposit is the primary mineral resource material mined within the SAR Rock Products permit areas. Below the basalt cobble unit we anticipate the site is underlain by tuffaceous sedimentary rock.

Based on review of the topographic survey (see **Figure 3**, Topographic Map), the proposed Expansion Area has existing ground surface elevations that range between approximately 2,850

to 3,120 feet mean sea level (msl). The proposed permit area generally rises in elevation as you travel east with typical slopes nearing 30-percent.

Shallow groundwater underlies the permit area. A water well (CROO 54619) exists on-site and was completed on May 4, 2018. The depth of static groundwater was approximately 57.5 feet below ground surface (bgs) and the completed depth was 153.5 feet bgs. Boring logs of subsurface conditions are included for reference in **Appendix A**.

FIELD INVESTIGATION

The resource evaluation scope of work included subsurface exploration with test pits, aerial drone mapping, surveying, sampling, and mineral resource laboratory analyses. Test pits were previously excavated by the Client, and excavations were logged by a Wallace Group registered geologist. The proposed Expansion Area permit boundary was surveyed by H.A. McCoy Engineering & Surveying, LLC (HAM). Povey & Associates Land Surveyors of Redmond, Oregon was commissioned to perform an aerial topographic drone survey of the 12-acre permit Expansion Area. The aerial drone survey was performed on June 28, 2023. Povey & Associates tied property boundary benchmarks for the aerial drone survey using electronic survey details provided by HAM and established elevation control points for the permit area.

To establish the volume of in-situ (in-place) overburden soil, cobbles, and tuffaceous sedimentary rocks, geologic elevation data from the test pits was used to estimate the thickness and establish top/bottom elevations for the geologic units of interest. Due to the spatial variability and limited exploration data points, the overburden soil unit was combined with the underlying basaltic cobble unit for volume calculations (see **Figure 4: Unit 1 & 2 Volume Map**). Because test pits did not extend to the full thickness of the proposed cut, a third unit was quantified to document remaining materials below the test pits and extending down to the proposed mine floor or slope surface (see **Figure 5: Unit 3 Volume Map**). Based on field observations, we anticipate that Unit 3 materials consist predominately of tuffaceous sedimentary rock which we understand can be processed to generate soil-type products.

The floor elevation of 2,850 feet mean sea level (msl) for the southern portion of the Expansion Area is assumed to be level with the existing hay barn. The floor elevation of the remaining western perimeter of the proposed permit area was held to be consistent with the existing elevation of the access road to the processing area, with an elevation of 2,923 feet msl. A slope

of 1.5 to 1 (horizontal to vertical) was established starting on the eastern perimeter which extends down to the floor elevation. These floor elevations and slopes form the base surface for the mineral resource volume calculations.

Slope stability analyses were not included in our scope of work, however, based on our observations of current excavation conditions within the existing surface mine area, we assume the slightly welded, tuffaceous sedimentary rock will be stable at the proposed 1.5 to 1 (H to V) slope. Based upon the data and assumptions set forth above, Povey & Associates calculated volumes for both overburden soil and cobble (Unit 1 & 2) and the underlying, tuffaceous sedimentary rock (Unit 3). Current conditions and exploration locations, as well as topographic maps are shown on **Figures 2 and 3**, respectively. Final pit elevations contours, floor elevations, and estimated unit volumes are shown on **Figures 4 and 5**.

RESOURCE EVALUATION

Representative samples were collected from a stockpile of processed ¾" minus material during fieldwork operations and transported to Wallace Group's geotechnical laboratory for sieve and moisture content analyses. During sample collection we noted that the stockpile does show some variability in fine content. Laboratory gradation testing confirmed the material was coarse graded gravel with only 0.6 percent passing the #200 sieve. Based on the single sieve analysis, the material does not meet gradation specifications for Oregon Department of Transportation (ODOT) 'State Spec' requirements; however, we anticipate this is due to segregation and stockpile variability. It appears the material may meet gradation 'State Spec' requirements with additional processing.

Representative in-situ samples of each unit were collected during fieldwork operations and transported to Wallace Group's laboratory for unit weight analysis in accordance with ASTM test method C-29. The dry unit weight of all material units ranged from 81 to 115 pounds per cubic foot (lb./ft³). From this data, the average dry unit weight of all units is approximately 98 lb./ft³, which correlates to an in-situ dry density of approximately 1.3 tons per cubic yard (tons/yd³).

Additionally, testing including L.A. Abrasion (ASTM C131), Soundness of Aggregates by use of Sodium Sulfate (ASTM C88), and Oregon Air Degradation (ODOT TM208) was performed on the ¾" minus material for comparison with ODOT specifications for aggregate resources. Based on

the laboratory results, the processed ¾" minus material meets ODOT specifications for aggregate durability and appear to be suitable for state and/or municipal road construction, and private development applications. Laboratory test results are included for reference in **Appendix B**.

RESOURCE QUANTITY

Based upon the topographic survey, subsurface data, recommended 1.5 to 1 (H to V) slopes, and assumed pit floor elevations, we estimate approximately 600,000 yd³ of total overburden soil, basalt cobble, and tuffaceous sedimentary rock is available for mining within the proposed 12-acre claim.

The mineral resource totals for the proposed 12-acre surface mine expansion area are summarized below:

- Unit 1 & 2 Overburden Soil & Cobble: 331,608 yd³
 - Unit 3 Tuffaceous Sedimentary Rock: 267,610 yd³
- Total: 599,218 yd³

We understand that all excavated materials can be processed for sale to private and commercial buyers. We understand the overburden soil and tuffaceous sedimentary rock is typically separated and processed for sale as topsoil. The basalt cobble unit is reportedly processed and crushed on-site to produce various soil and gravel aggregate products for use in horizontal and vertical construction projects. Based upon the results of laboratory testing, the average in-situ soil, cobble, and tuffaceous sedimentary rock density is estimated at 1.3 tons/yd³. This equates to approximately 779,000 tons of soil, cobble, and tuffaceous sedimentary rock material within the proposed surface mine limits.

Due to limited subsurface information below the bottom of the test pits, we have assumed that Unit 3 material consists of the tuffaceous sedimentary rock. It is possible that the Unit 2 cobble layer may extend deeper than the bottom of the test pits; however, the total volume of mineable materials would not change.

Povey & Associates volume calculations are summarized in **Appendix D**. Please note these estimates are for in-place (in-situ) mineral resource materials and do not include a bulking factor associated with post-excavation volume (estimated factor for soil, sand, gravel, and cobble of approximately 1.25).

Based on the findings presented in this report, we believe the proposed Expansion Area meets the Statewide Planning Goal 5 requirements for aggregate quality as per OAR 660-23-0180 3(a).

REFERENCES

Baldwin, E.M., Orr, E.L., and Orr, W.N., 1992, *Geology of Oregon*, Fourth Edition, Kendall/Hunt Publishing Company, Dubuque, IA, 254p.

Gannett, M.W., Lite, K.E., Jr., Morgan, D.S., and Collins, C.A., 2001, *Ground-water hydrology of the upper Deschutes Basin, Oregon: U.S. Geological Survey Water Resources Investigations Report 00-4162*, 77p.

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Seligman, A.N., Bindeman, I.N., McClaughry, J.D., Stern, R., and Fisher, C. "The earliest low and high $\delta^{18}O$ caldera-forming eruptions of the Yellowstone plume: Implications for the 30–40 Ma Oregon calderas and speculations on plume-triggered delaminations." *Frontiers in Earth Science – Volcanology* 2:34 (2014): 1-9.

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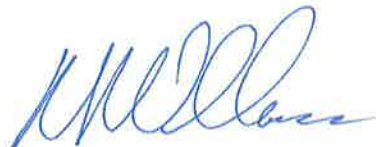
CLOSING

Based upon discussions with the Client and the stockpiled materials currently present on-site, we assume the most common mineral resource products produced at the quarry are drain rock, 1.5" minus, ¾" minus, topsoil, and clay pond-liner material. We trust the information contained in this report will meet the needs of SAR Rock Products at this time and appreciate the opportunity to provide our professional services for the proposed permit area. If any questions arise concerning this report, please contact our Bend office at (541) 382.4707.

Respectfully submitted,
Wallace Group, Inc.



Adam Larson, P.E.,
Project Geotechnical Engineer



Scott Wallace, R.G.
Principal Geologist

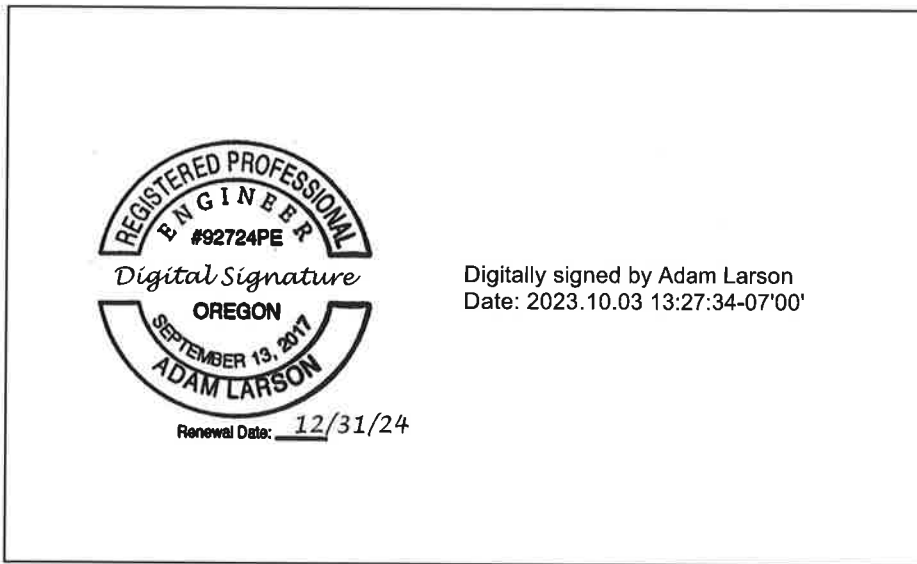
FIGURES

1. Vicinity Map
2. Exploration Location and Permit Boundary Map
3. Topographic Map
4. Unit 1 & 2 Volume Map
5. Unit 3 Volume Map

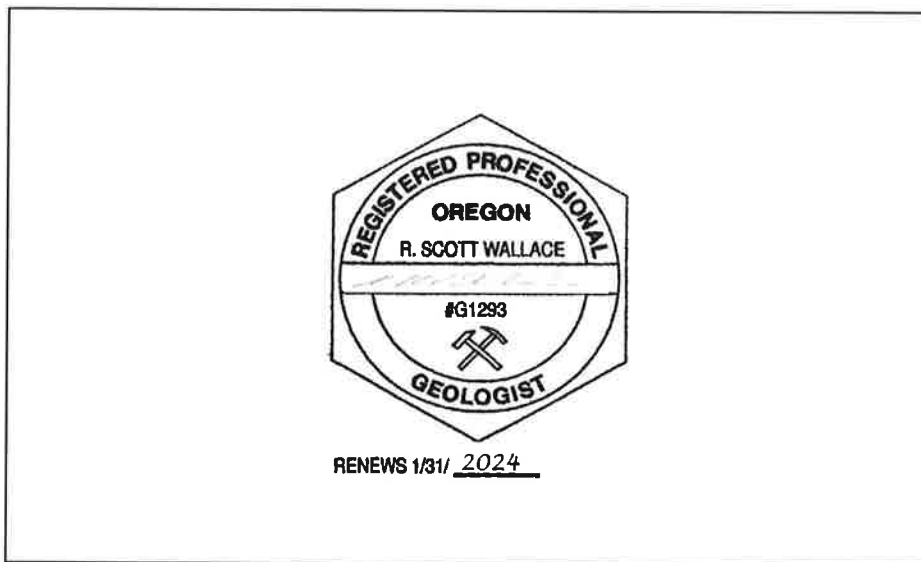
APPENDICES

- A. Field Exploration Summary & Test Pit Logs
- B. Laboratory Analyses
- C. Photos
- D. Volume Calculations

This report has been authored and reviewed by the undersigned, respectively. This report is void if the original seal(s) and signature(s) are not included.



Adam Larson, P.E.
Project Geotechnical Engineer

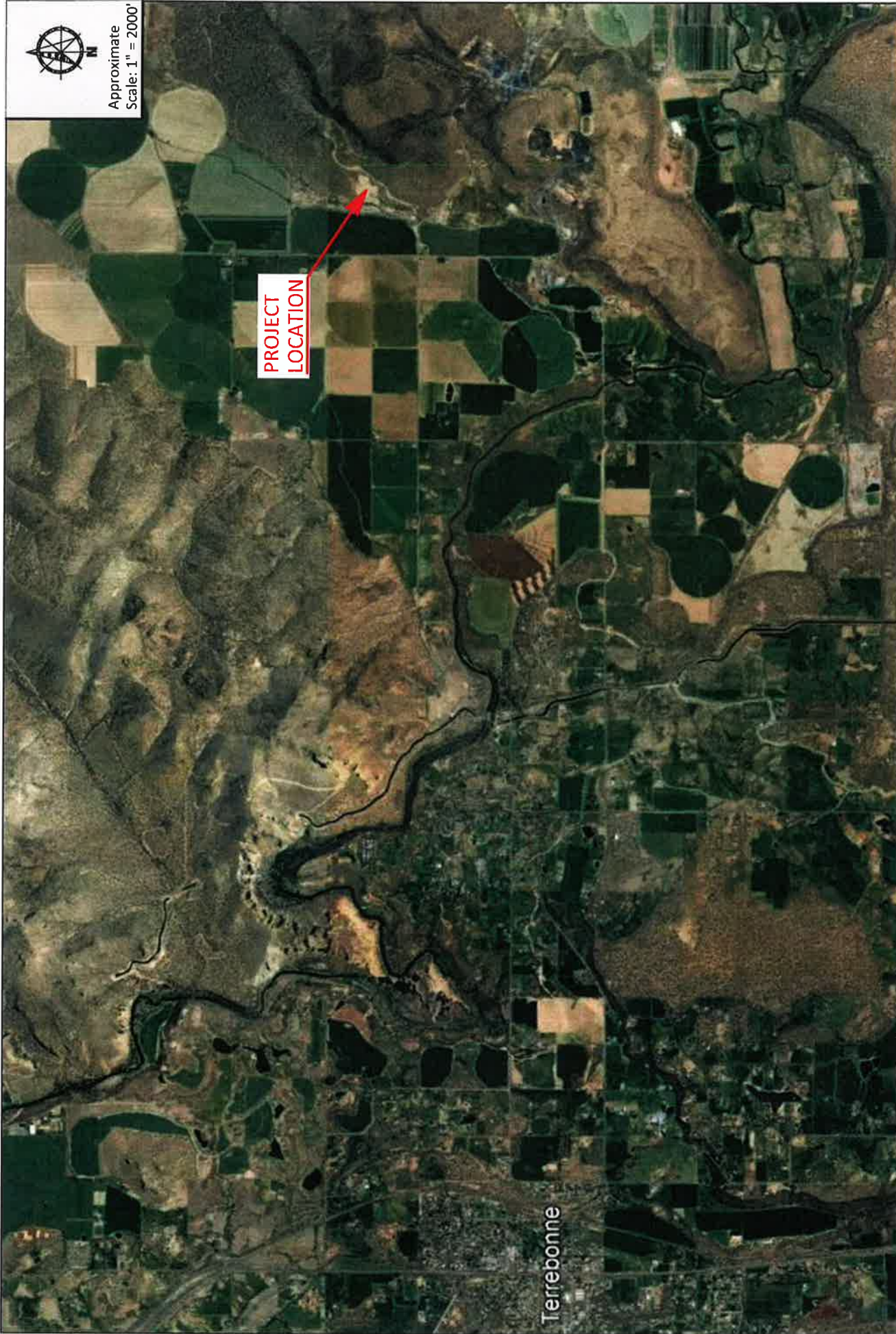


Scott Wallace, R.G.
Principal Geologist



WALLACE
GROUP
NORTHWEST GEOSYSTEM EXPERTS

FIGURES



Approximate
Scale: 1" = 2000'

**PROJECT
LOCATION**

Terrebonne




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**VICINITY MAP
SAR ROCK PRODUCTS
TERREBONNE, OREGON**

PROJECT No:	23093 (1)	FIGURE	1
DRAWN:	July 5, 2023		
DRAWN BY:	KAK		
CHECKED BY:	AML		
FILE NAME:	23093 (1) Figure 1		



FIGURE 2: EXPLORATION LOCATION & PERMIT BOUNDARY MAP
PERMITEE: CHUCK HEGELE
DOGAMI SITE #:07-0150
LOCATED IN THE SOUTHWEST 1/4 OF SETION 9,
TOWNSHIP 14 SOUTH, RANGE 14 EAST,
WILLAMETTE MERIDIAN, CROOK COUNTY, OREGON

-  - EXISTING PERMIT BOUNDARY
-  - PROPOSED PERMIT BOUNDARY
-  - EXPLORATION BORING

SCALE:
1" = 200'



FIGURE 3: TOPOGRAPHIC MAP
PERMITEE: CHUCK HEGELE
DOGAMI SITE #:07-0150
LOCATED IN THE SOUTHWEST 1/4 OF SETION 9,
TOWNSHIP 14 SOUTH, RANGE 14 EAST,
WILLAMETTE MERIDIAN, CROOK COUNTY, OREGON

-  - EXISTING PERMIT BOUNDARY
-  - PROPOSED PERMIT BOUNDARY

SCALE:
1" = 200'

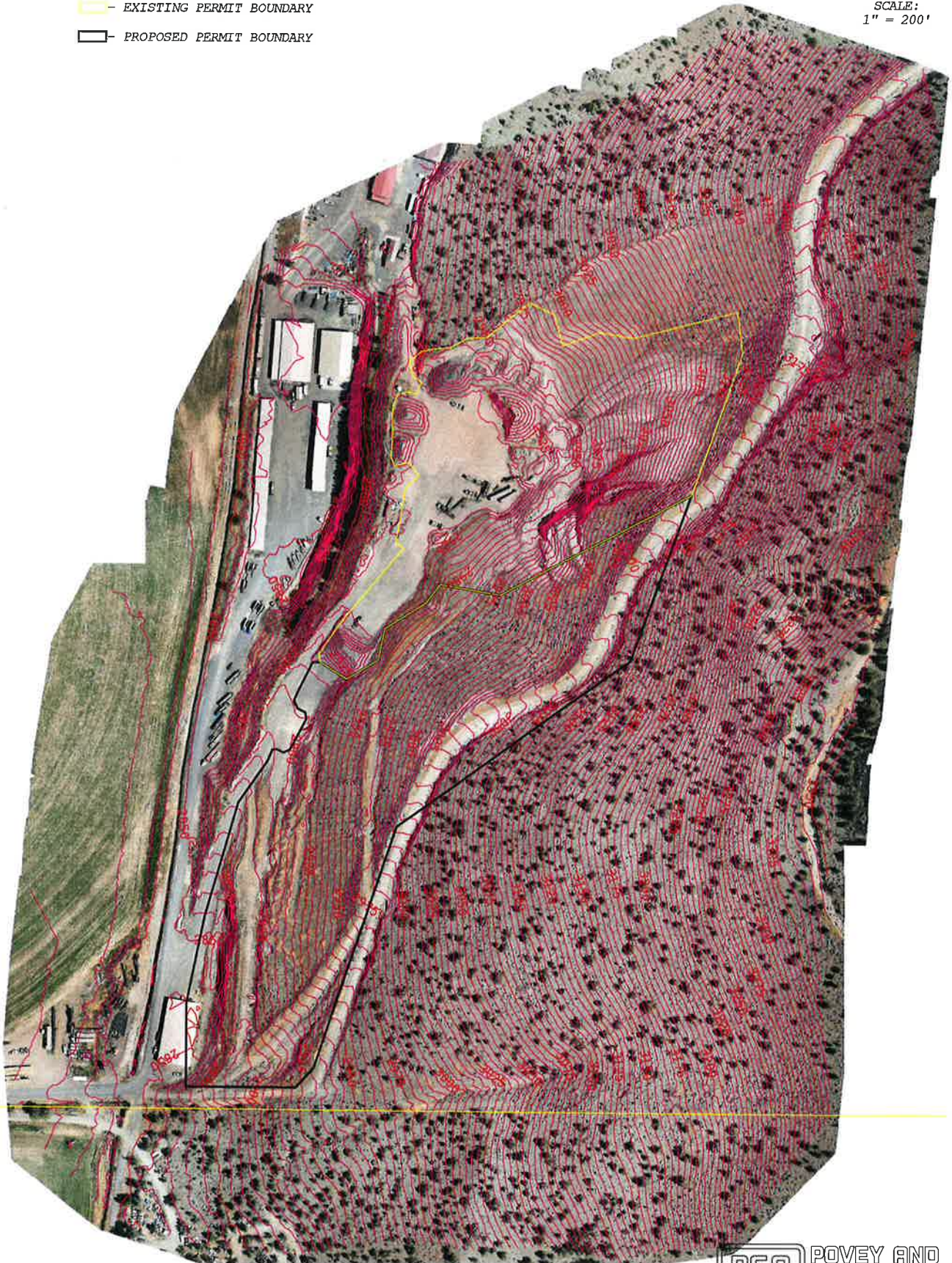
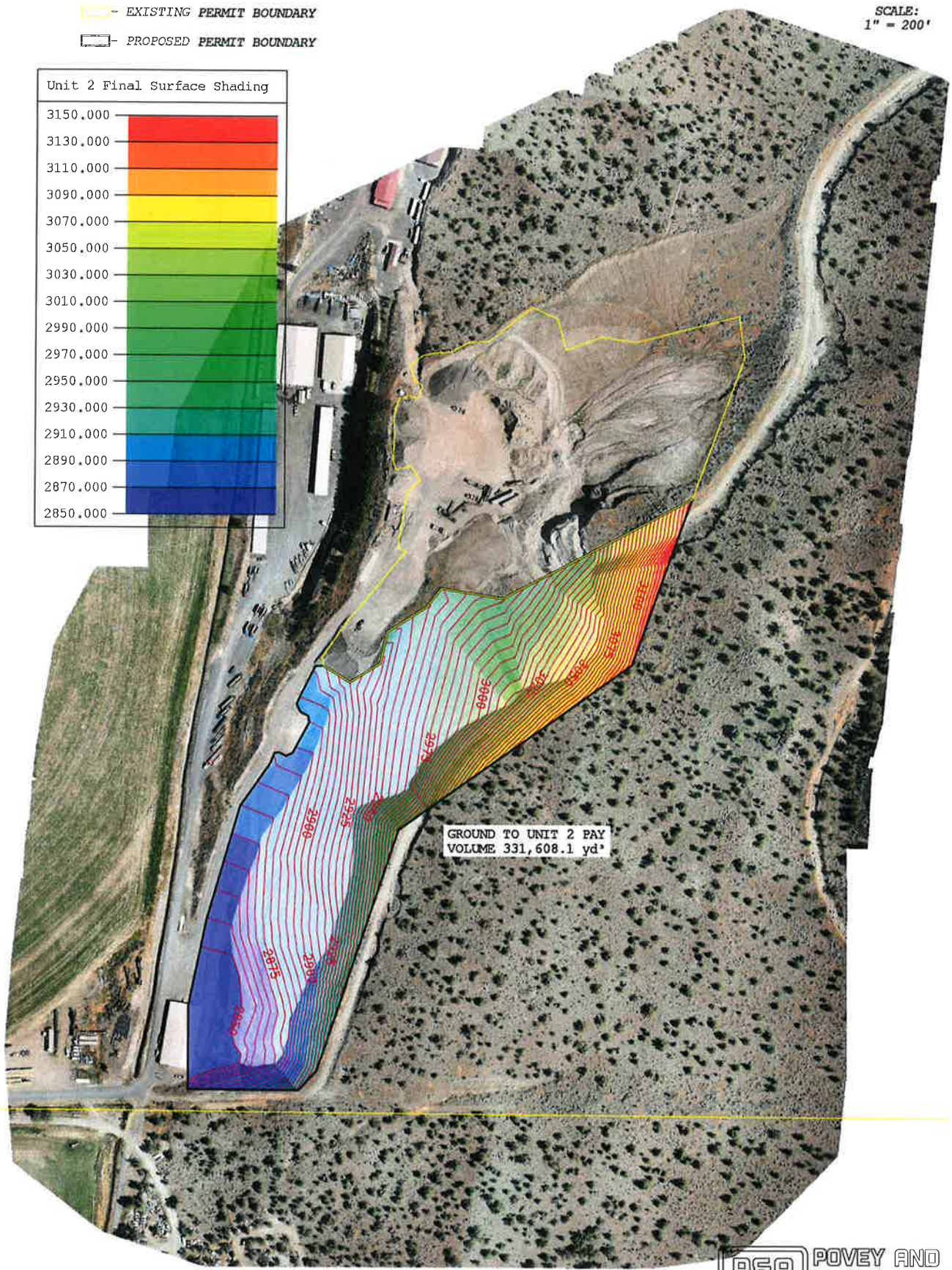
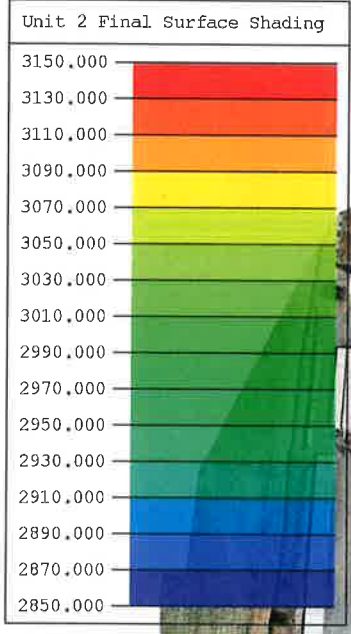


FIGURE 4: UNIT 1 & 2 VOLUME MAP
 PERMITEE: CHUCK HEGELE
 DOGAMI SITE #:07-0150
 LOCATED IN THE SOUTHWEST 1/4 OF SETION 9,
 TOWNSHIP 14 SOUTH, RANGE 14 EAST,
 WILLAMETTE MERIDIAN, CROOK COUNTY, OREGON

SCALE:
 1" = 200'

EXISTING PERMIT BOUNDARY
 PROPOSED PERMIT BOUNDARY



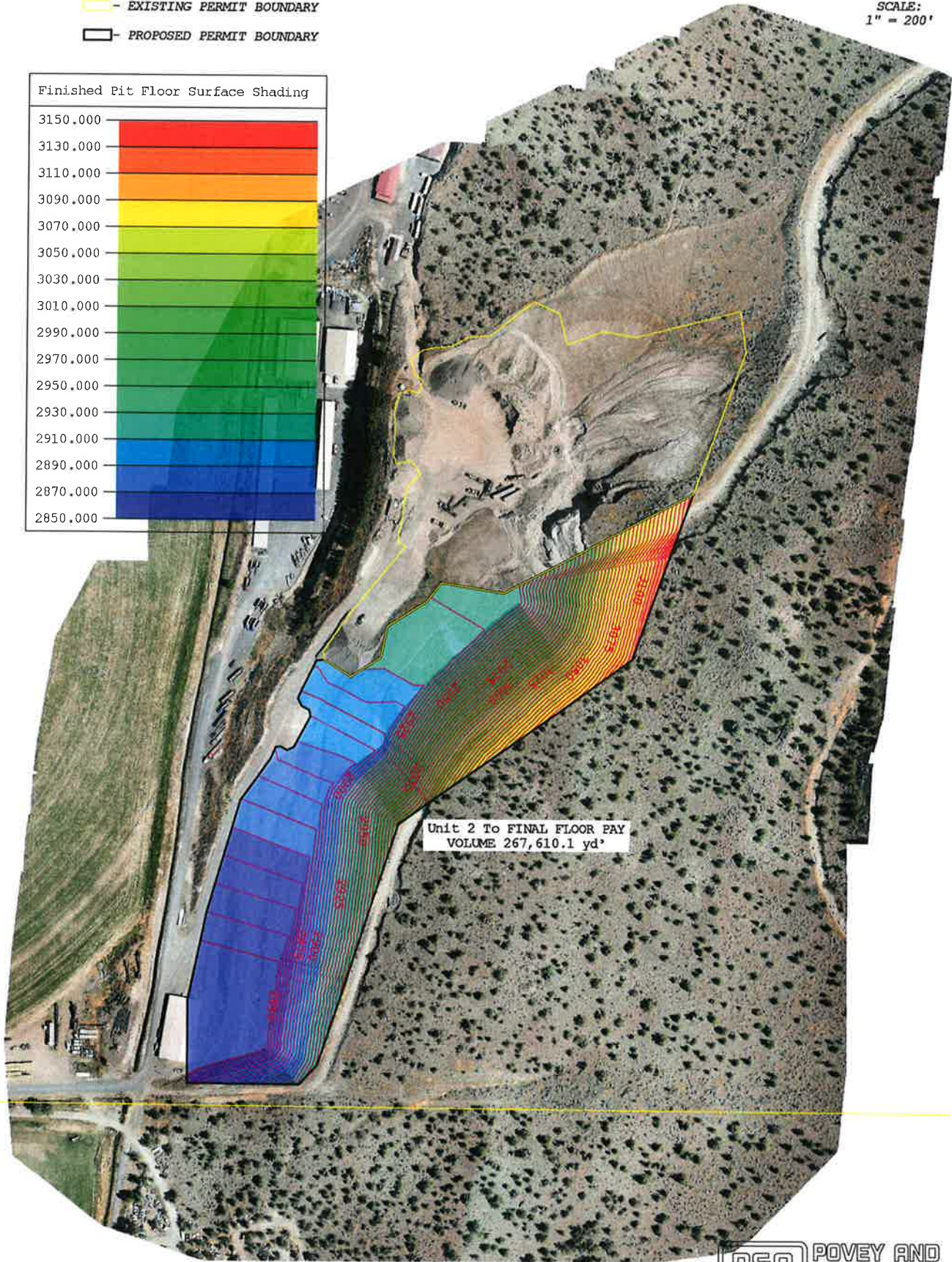
GROUND TO UNIT 2 PAY
 VOLUME 331,608.1 yd³

FIGURE 5: UNIT 3 VOLUME MAP
 PERMITEE: CHUCK HEGELE
 DOGAMI SITE #:07-0150
 LOCATED IN THE SOUTHWEST 1/4 OF SETION 9,
 TOWNSHIP 14 SOUTH, RANGE 14 EAST,
 WILLAMETTE MERIDIAN, CROOK COUNTY, OREGON

— EXISTING PERMIT BOUNDARY
 — PROPOSED PERMIT BOUNDARY

SCALE:
 1" = 200'

Finished Pit Floor Surface Shading	
3150.000	Red
3130.000	Orange
3110.000	Yellow-Orange
3090.000	Yellow
3070.000	Light Green
3050.000	Green
3030.000	Light Green
3010.000	Green
2990.000	Light Green
2970.000	Green
2950.000	Light Green
2930.000	Green
2910.000	Light Green
2890.000	Green
2870.000	Light Green
2850.000	Green



Unit 2 To FINAL FLOOR PAY
 VOLUME 267,610.1 yd³

APPENDIX A

APPENDIX A FIELD EXPLORATION SUMMARY

GENERAL

Subsurface conditions for the SAR Rock Products – 12-acre mining expansion, located near Terrebonne, Oregon, were explored by excavating nine (9) test pits, at the approximate locations shown on **Figure 2, Exploration Location Map**. Test pit logs are included in this appendix. The test pit excavations were observed on June 20, 2023. Unless otherwise noted, all soil sampling and classification procedures followed local engineering practices which are in general conformance with relevant ASTM procedures and the Unified Soil Classification System (USCS). “General conformance” means that certain local and common excavation and descriptive practices and methodologies have been followed.

TEST PITS

Nine (9) test pits were excavated by the Client prior to our field logging activities. The test pits were observed by a Wallace Group registered geologist who maintained a detailed log of subsurface conditions and materials encountered and collected soil samples at appropriate depth intervals. The test pits were excavated to depths ranging between approximately 10- to 22-feet below ground surface (bgs). Bulk samples were retrieved for laboratory testing.

SAMPLING

Disturbed soil samples were retrieved from the test pits. The samples were classified and sealed in plastic bags for further examination and physical testing in our laboratory for gradation and moisture content.

TEST PIT LOGS


Figure A is a Legend explaining the information and symbols presented on the test pit logs. The logs of the test pits are presented on Figures A-1 through A-9. The logs describe the materials encountered and the depths where materials and/or characteristics of these materials changed, although the changes may be gradual. Where material types and descriptions changed between samples, the contacts were interpreted.

MATERIAL DESCRIPTIONS

Soil samples were visually classified in the field as they were collected. Consistency, color, relative moisture, degree of plasticity, and other distinguishing characteristics of the samples were noted. Afterwards, the samples were re-examined in the laboratory, various standard classification tests were conducted, and the field classifications were modified where necessary. The terminology used in the soil classifications and rock descriptions are defined beginning on Page 3 and are included under material description on each log.

GROUNDWATER

Groundwater was not encountered during subsurface exploration for this project.



TERMINOLOGY USED TO DESCRIBE SOIL AND ROCK

Soils exist in mixtures with varying proportions of components. The predominant soil, i.e., greater than 50 percent based upon total dry weight, is the primary soil type and is capitalized in our log descriptions, e.g., SAND, GRAVEL, SILT or CLAY. Lesser percentages of other constituents in the soil mixture are indicated by use of modifier words in general accordance with the Visual-Manual Procedure (ASTM D2488-93). "General Accordance" means that certain local and common descriptive practices have been followed. In accordance with ASTM D2488, group symbols (such as GP or CH) are applied on that portion of the soil passing the 3-inch (75mm) sieve based upon visual examination. The following describes the use of soil names and modifying terms used to describe fine- and coarse-grained soils.

Fine - Grained SOILS (More than 50% fines passing 0.074 mm, #200 sieve)

The primary soil type i.e. SILT or CLAY is designated through visual – manual procedures to evaluate soil toughness, dilatancy, dry strength, and plasticity. The following describes the terminology used to describe fine - grained soils and varies from ASTM 2488 terminology in the use of some common terms.

Primary soil NAME, adjective and symbols			Plasticity Description	Plasticity Index (PI)
SILT	CLAY	ORGANIC SILT & CLAY		
ML & MH	CL & CH	OL & OH		
SILT		Organic SILT	Non-plastic	0 - 3
SILT		Organic SILT	Low plasticity	4 - 10
Clayey SILT	Silty CLAY	Organic clayey SILT	Medium Plasticity	>10 – 20
Clayey SILT	CLAY	Organic silty CLAY	High Plasticity	>20 – 40
Clayey SILT	CLAY	Organic CLAY	Very Plastic	>40

Modifying terms describing secondary constituents, estimated to 5 percent increments, are applied as follows:

Description	% Composition
Trace sand, trace gravel	5% - 10%
With sand; with gravel	15% - 25%
Sandy, or gravelly	30% - 45%

Borderline Symbols, for example CH/MH, are used where soils are not distinctly in one category or where variable soil units contain more than one soil type. Dual Symbols, for example CL-ML, are used where two symbols are required in accordance with ASTM D2488.

Soil Consistency. Consistency terms are applied to fine-grained, plastic soils (i.e., $PI > 4$). Descriptive terms are based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586-84, as follows.

Consistency Term	SPT N-value	Unconfined Compressive Strength	
		Tons/sq.ft.	kPa
Very soft	Less than 2	Less than 0.25	Less than 24
Soft	2 - 4	0.25 - 0.5	24 - 48
Medium stiff	5 - 8	0.5 - 1.0	48 - 96
Stiff	9 - 15	1.0 - 2.0	96 - 192
Very stiff	16 - 30	2.0 - 4.0	192 - 383
Hard	Over 30	Over 4.0	Over 383

Note: For SILT with low to non-plastic behavior, (i.e., $PI < 4$) a relative density description is applied.

Coarse-Grained Soils (less than 50% fines)

Coarse-grained soil descriptions, i.e., SAND or GRAVEL, are based on that portion of materials passing a 3-inch (75mm) sieve. Coarse-grained soil group symbols are applied in accordance with ASTM D2488 based upon the degree of grading, or distribution of grain sizes of the soil. For example, well graded sand containing a wide range of grain sizes is designated SW; poorly graded gravel, GP, contains high percentages of only certain grain sizes. Terms applied to grain sizes follow.

	Particle Diameter	
	Inches	Millimeters
Sand (S)	0.003 - 0.19	0.075 - 4.8
Gravel (G)	0.19 - 3.0	4.8 - 75
	<i>Additional Constituents</i>	
Cobble	3.0 - 12	75 - 300
Boulder	12 - 120	300 - 3050
Rock Block	>120	>3050

The primary soil type is capitalized, and the amount of 'fines' in the soil are described as indicated by the following examples. Other soil mixtures will provide similar descriptive names.

Terminology Used to Describe Rock

Scale of Rock Strength

Description	Designation	Unconfined Compressive Strength, psi	Unconfined Compressive Strength, MP	Field Identification
Very low strength	R1	100 – 1000	0.7 – 7	Crumbles under firm blows with point of geology pick; can be peeled by a pocketknife.
Low strength	R2	1,000 – 4,000	7 – 28	Can be peeled by a pocketknife with difficulty; shallow indentation made by firm blows of geology pick.
Moderate strength	R3	4,000 – 8,000	28 – 55	Cannot be scraped or peeled with a pocketknife; specimen can be fractured with a single firm blow of geology hammer.
Medium high strength	R4	8,000 – 16,000	55 – 110	Specimen requires more than one blow with a geology hammer to fracture it.
High strength	R5	16,000 – 32,000	110 – 120	Specimen requires many blows of geology hammer to fracture it.
Very high strength	R6	> 32,000	> 220	Specimen can only be chipped with geology pick.

Descriptive Terminology for Joint Spacing or Bedding

<i>Descriptive Term</i>	<i>Spacing of Joints</i>	
Very close	Less than 2 inches	< 50 mm
Close	2 inches - 1 foot	50 mm – 300 mm
Moderately close	1 foot - 3 feet	300 mm – 1 m
Wide	3 feet -10 feet	1 m – 3 m
Very wide	Greater than 10 feet	> 3 m

Descriptive Terminology for Vesicularity

<i>Descriptive Term</i>	<i>Percent voids by volume</i>
Dense	< 1%
Slightly vesicular	1 – 10%
Moderately vesicular	10 – 30%
Highly vesicular	30 – 50%
Scoriaceous	> 50%

Example: Coarse-Grained Soil Descriptions with Fines

5% fines	10% fines (Dual Symbols)	15% to 45% fines
GRAVEL with trace silt: GW or GP	GRAVEL with silt, GW-GM	Silty GRAVEL: GM
SAND with trace clay: SW or SP	SAND with clay, SP-SC	Silty SAND: SM

Additional descriptive terminology applied to coarse-grained soils follow.

Coarse-Grained Soil Containing Secondary Constituents

Clean	< 5% fines
With sand or with gravel	15% - 25% sand or gravel
Sandy or gravelly	30% - 45% sand or gravel
With cobbles; with boulders	Any amount cobbles or boulders. Additional terms may be used to describe amount including abundant, scattered.

Cobble and boulder deposits may include a description of the matrix soils, as defined above.

Relative Density terms are applied to granular, non-plastic soils based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586.

Relative Density Term	SPT N-value
Very loose	0 - 4
Loose	4 - 10
Medium dense	10 - 30
Dense	30 - 50
Very dense	> 50

Correlation of RQD and Rock Quality

Rock Quality Descriptor	RQD Value
Very poor	0 – 25
Poor	25 - 50
Fair	50 - 75
Good	75 - 90

SCALE OF ROCK WEATHERING

Stage	Description	Quality Distinction
Fresh	Rock is fresh, crystals are bright, a few joints may show slight staining because of ground water.	Discoloration
Very Slight	Rock is generally fresh, joints are stained, some joints may have thin clay coatings, crystals in broken faces show bright.	Discoloration only on major discontinuity surfaces ⁱ
Slight	Rock is generally fresh, joints are stained, and discoloration extends into rock up to 1 in. Joints may contain clay. In granitoid rocks some feldspar crystals are dull and discolored. Rocks ring under hammer if crystalline.	Discoloration on all discontinuity surfaces and on rock
Moderate	Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some are clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.	Decomposition and/or disintegration < 50% of rock ⁱⁱ
Moderately Severe	All rock, except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.	Decomposition and/or disintegration > 50%, but not complete
Severe	All rock, except quartz, discolored or stained. Rock "fabric" is clear and evident but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of harder rock usually left, such as corestones in basalt.	Decomposition and/or disintegration > 75%, nearly complete
Very Severe	All rock, except quartz, discolored or stained. Rock "fabric" is discernible, but mass effectively reduced to "soil" with only fragments of harder rock remaining.	Decomposition and/or disintegration 100% with structure/fabric intact
Complete	Rock is reduced to "soil". Rock "fabric" is not discernible, or only in small scattered locations. Quartz may be present as dikes or stringers.	Decomposition and/or disintegration 100% with structure/fabric destroyed

NOTES: ⁱ Discontinuities consist of any natural break (joint, fracture or fault) or plane of weakness (shear or gouge zone, bedding plane) in a rock mass

ⁱⁱ Decomposition refers to chemical alteration of mineral grains; disintegration refers to mechanical breakdown

ⁱⁱⁱ Stage and description from ASCE Manual No. 56 (1976), quality distinction from Murray (1981)



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Bend, OR 97701

KEY TO SYMBOLS

CLIENT SAR Environmental, LLC

PROJECT NAME SAR 12-Acre Expansion

PROJECT NUMBER 23093-1

PROJECT LOCATION Terrebonne, OR

LITHOLOGIC SYMBOLS (Unified Soil Classification System)



GM: USCS Silty Gravel



SM: USCS Silty Sand






SP-SM: USCS Poorly-graded Sand with Silt

SAMPLER SYMBOLS

WELL CONSTRUCTION SYMBOLS

ABBREVIATIONS

LL - LIQUID LIMIT (%)
 PI - PLASTIC INDEX (%)
 MC - MOISTURE CONTENT (%)
 DD - DRY DENSITY (PCF)
 NP - NON PLASTIC
 FINES - PERCENT PASSING NO. 200 SIEVE
 PP - POCKET PENETROMETER (TSF)
 OC - ORGANIC CONTENT (%)

TV - TORVANE
 PID - PHOTOIONIZATION DETECTOR
 UCCS- UNCONFINED COMPRESSION
 ppm - PARTS PER MILLION
 Water Level at Time of Drilling, or as Shown
 Water Level at End of Drilling, or as Shown
 Water Level After 24 Hours, or as Shown

KEY TO SYMBOLS - WALLACE GROUP DATA TEMPLATE.GDT - 8/28/23 13:52 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\23093-1 SAR ROCK PRODUCTS.GPJ

Figure: A



Wallace Group Inc.
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TEST PIT NUMBER TP-01

PAGE 1 OF 1

CLIENT SAR Environmental, LLC PROJECT NAME SAR 12-Acre Expansion
 PROJECT NUMBER 23093-1 PROJECT LOCATION Terrebonne, OR
 DATE STARTED 6/20/23 COMPLETED 6/20/23 GROUND ELEVATION 2900 ft
 EXCAVATION CONTRACTOR Wallace Group GROUND WATER LEVELS:
 EXCAVATION METHOD _____ AT TIME OF EXCAVATION ---
 LOGGED BY KAK CHECKED BY AML 24HRS AFTER EXCAVATION ---

NOTES _____

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 8/28/23 13:51 - WAGINT.PRO - FILES\BENTLEY\GINT\PROJECTS\23093-1 SAR ROCK PRODUCTS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					
5		SM		SILTY SAND, gravel, slightly moist, tan, fine to coarse grained, subangular to subrounded	2895.0
10		GM		SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, tan with grayish black, fine to coarse grained, angular to subangular	2890.0

Refusal at 10.0 feet on limit of excavator.
Bottom of test pit at 10.0 feet.

Figure: A - 1



Wallace Group Inc.
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Bend, OR 97701

TEST PIT NUMBER TP-03

CLIENT SAR Environmental, LLC PROJECT NAME SAR 12-Acre Expansion
 PROJECT NUMBER 23093-1 PROJECT LOCATION Terrebonne, OR
 DATE STARTED 6/20/23 COMPLETED 6/20/23 GROUND ELEVATION 2890 ft
 EXCAVATION CONTRACTOR Wallace Group GROUND WATER LEVELS:
 EXCAVATION METHOD _____ AT TIME OF EXCAVATION ---
 LOGGED BY KAK CHECKED BY AML 24HRS AFTER EXCAVATION ---

NOTES _____

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					
1.0	GM			SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, tan with grayish black, fine to coarse grained, angular to subangular	2889.0
3.0	SM			SILTY SAND, slightly moist to dry, tan with white, fine to coarse grained, subangular to subrounded, pumiceous	2887.0
9.0	SP-SM			POORLY GRADED SAND WITH SILT, slightly moist, blackish brown to whiteish brown, fine grained, subangular to rounded, laminated	2881.0
22.0	GM			SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, tan with grayish black, fine to coarse grained, angular to subangular	2868.0

Refusal at 22.0 feet on limit of excavator.
Bottom of test pit at 22.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 8/28/23 13:51 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\23093-1 SAR ROCK PRODUCTS.GPJ

Figure: A - 3



Wallace Group Inc.
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Bend, OR 97701

TEST PIT NUMBER TP-04

CLIENT SAR Environmental, LLC PROJECT NAME SAR 12-Acre Expansion
 PROJECT NUMBER 23093-1 PROJECT LOCATION Terrebonne, OR
 DATE STARTED 6/20/23 COMPLETED 6/20/23 GROUND ELEVATION 2885 ft
 EXCAVATION CONTRACTOR Wallace Group GROUND WATER LEVELS:
 EXCAVATION METHOD _____ AT TIME OF EXCAVATION --
 LOGGED BY KAK CHECKED BY AML 24HRS AFTER EXCAVATION --
 NOTES _____

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					
		SM		SILTY SAND, slightly moist to dry, tan with white, fine to coarse grained, subangular to subrounded, pumiceous	
		GM		SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, tan with grayish black, fine to coarse grained, angular to subangular	2883.0
					2881.5
5		SP-SM		POORLY GRADED SAND WITH SILT, slightly moist to dry, dark tannish brown with white, fine grained, subrounded to rounded, laminated	
					2876.5
10		GM		SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, tan with grayish black, fine to coarse grained, angular to subangular	
15					
					2866.5

Refusal at 18.5 feet on limit of excavator.
Bottom of test pit at 18.5 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 8/28/23 13:51 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\23093-1\SAR ROCK PRODUCTS.GPJ

Figure: A - 4



Wallace Group Inc.
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TEST PIT NUMBER TP-05

CLIENT SAR Environmental, LLC PROJECT NAME SAR 12-Acre Expansion
 PROJECT NUMBER 23093-1 PROJECT LOCATION Terrebonne, OR
 DATE STARTED 6/20/23 COMPLETED 6/20/23 GROUND ELEVATION 2960 ft
 EXCAVATION CONTRACTOR Wallace Group GROUND WATER LEVELS:
 EXCAVATION METHOD _____ AT TIME OF EXCAVATION --
 LOGGED BY KAK CHECKED BY AML 24HRS AFTER EXCAVATION --

NOTES _____

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 8/28/23 13:51 - W\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\23093-1 SAR ROCK PRODUCTS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					
5					
10		GM		SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, tan with grayish black, fine to coarse grained, angular to subangular	
15					
16.0					2944.0

Refusal at 16.0 feet on limit of excavator.
Bottom of test pit at 16.0 feet.

Figure: A - 5



Wallace Group Inc.
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Bend, OR 97701

TEST PIT NUMBER TP-06

PAGE 1 OF 1

CLIENT SAR Environmental, LLC PROJECT NAME SAR 12-Acre Expansion
 PROJECT NUMBER 23093-1 PROJECT LOCATION Terrebonne, OR
 DATE STARTED 6/20/23 COMPLETED 6/20/23 GROUND ELEVATION 2975 ft
 EXCAVATION CONTRACTOR Wallace Group GROUND WATER LEVELS:
 EXCAVATION METHOD _____ AT TIME OF EXCAVATION --
 LOGGED BY KAK CHECKED BY AML 24HRS AFTER EXCAVATION --
 NOTES _____

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 8/28/23 13:51 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\23093-1 SAR ROCK PRODUCTS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					
		GM		SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, tan with grayish black, fine to coarse grained, angular to subangular	2972.0
3.0					
		SM		SILTY SAND WITH GRAVEL, slightly moist to dry, white with gray, fine to coarse grained, angular to subangular, weathered tuff, pumice, calcite coated gravels	2969.0
5					
6.0					
		GM		SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, tan with grayish black, fine to coarse grained, angular to subangular	2959.0
10					
15					
16.0					

Refusal at 16.0 feet on limit of excavator.
Bottom of test pit at 16.0 feet.

Figure: A - 6



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TEST PIT NUMBER TP-07

PAGE 1 OF 1

CLIENT <u>SAR Environmental, LLC</u>	PROJECT NAME <u>SAR 12-Acre Expansion</u>
PROJECT NUMBER <u>23093-1</u>	PROJECT LOCATION <u>Terrebonne, OR</u>
DATE STARTED <u>6/20/23</u> COMPLETED <u>6/20/23</u>	GROUND ELEVATION <u>2980 ft</u>
EXCAVATION CONTRACTOR <u>Wallace Group</u>	GROUND WATER LEVELS:
EXCAVATION METHOD _____	AT TIME OF EXCAVATION <u>--</u>
LOGGED BY <u>KAK</u> CHECKED BY <u>AML</u>	24HRS AFTER EXCAVATION <u>--</u>
NOTES _____	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					
5		GM		SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, whiteish tan with grayish black, fine to coarse grained, angular to subangular	
10					
15			15.0		2965.0

Refusal at 15.0 feet on limit of excavator.
Bottom of test pit at 15.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 8/28/23 13:51 - WAGINT PRO - FILES\BENTLEY\GINT\PROJECTS\23093-1 SAR ROCK PRODUCTS.GPJ

Figure: A - 7



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Bend, OR 97701

TEST PIT NUMBER TP-08

PAGE 1 OF 1

CLIENT SAR Environmental, LLC PROJECT NAME SAR 12-Acre Expansion
 PROJECT NUMBER 23093-1 PROJECT LOCATION Terrebonne, OR
 DATE STARTED 6/20/23 COMPLETED 6/20/23 GROUND ELEVATION 3070 ft
 EXCAVATION CONTRACTOR Wallace Group GROUND WATER LEVELS:
 EXCAVATION METHOD _____ AT TIME OF EXCAVATION ---
 LOGGED BY KAK CHECKED BY AML 24HRS AFTER EXCAVATION ---

NOTES _____

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 8/28/23 13:51 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\23093-1 SAR ROCK PRODUCTS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					
5		GM		SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, whiteish tan with grayish black, fine to coarse grained, angular to subangular	
10					
			13.5	Refusal at 13.5 feet on limit of excavator. Bottom of test pit at 13.5 feet.	3056.5

Figure: A - 8



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Bend, OR 97701

TEST PIT NUMBER TP-09

PAGE 1 OF 1

CLIENT SAR Environmental, LLC PROJECT NAME SAR 12-Acre Expansion
 PROJECT NUMBER 23093-1 PROJECT LOCATION Terrebonne, OR
 DATE STARTED 6/20/23 COMPLETED 6/20/23 GROUND ELEVATION 3185 ft
 EXCAVATION CONTRACTOR Wallace Group GROUND WATER LEVELS:
 EXCAVATION METHOD _____ AT TIME OF EXCAVATION --
 LOGGED BY KAK CHECKED BY AML 24HRS AFTER EXCAVATION --
 NOTES _____

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					
5		GM		SILTY GRAVEL WITH SAND, cobbles, slightly moist to dry, grayish black with whiteish tan, fine to coarse grained, angular to subangular	
10					
13.0				Refusal at 13.0 feet on limit of excavator. Bottom of test pit at 13.0 feet.	3172.0

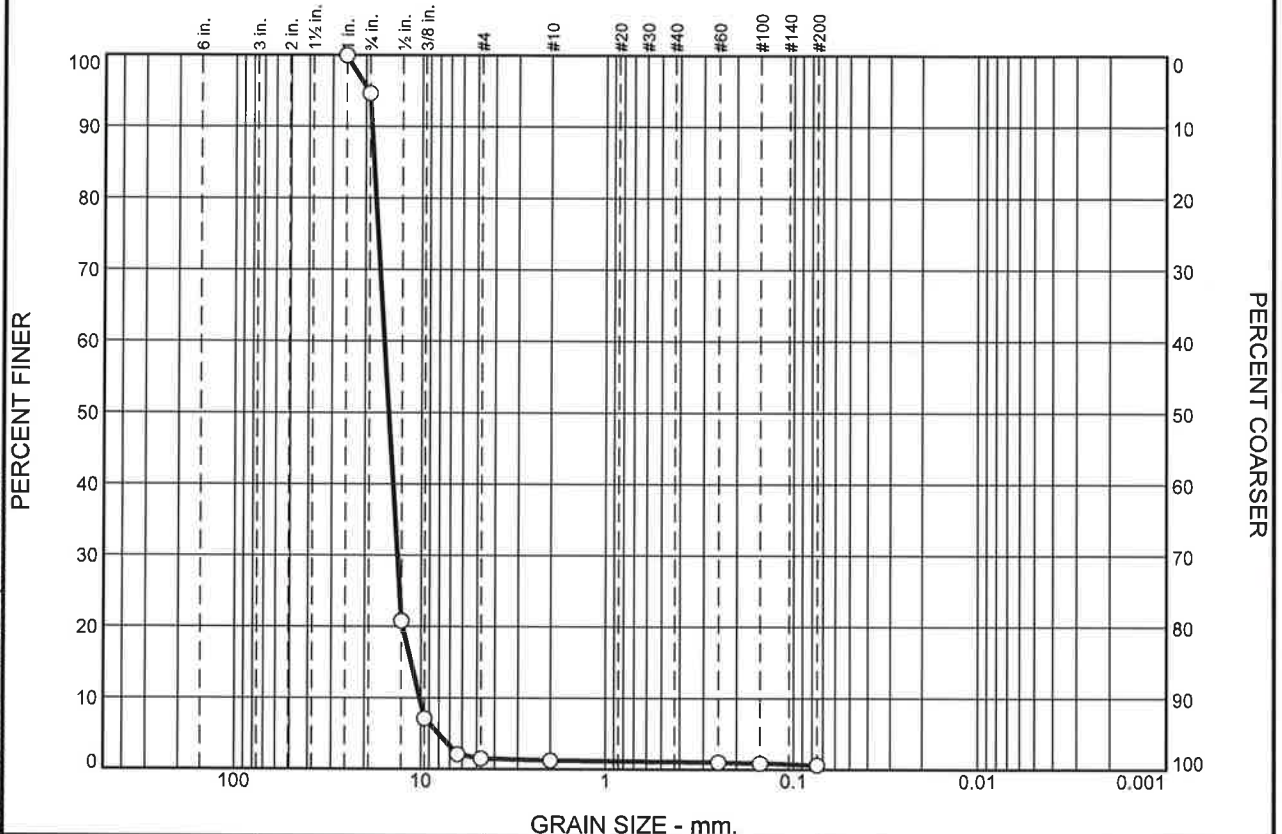
TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE_GDT - 8/28/23 13:51 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\23093-1 SAR ROCK PRODUCTS.GPJ

Figure: A - 9

APPENDIX B

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Sieve Analysis (C117/C136)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	5	94	0	0	0	1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100		
0.75"	95		
.5"	21		
.375	7		
.25	2		
#4	1		
#10	1		
#60	1		
#100	1		
#200	0.6		

Material Description

3/4" Crushed Gravel

Atterberg Limits

PL= Not Tested LL= Not Tested PI= N/A

Classification

USCS= GP AASHTO= --

Remarks

Sampled By: KAK on 06-20-23
 Material Supplier: SAR Rock Products

(no specification provided)

Source of Sample: SAR Pit
Sample Number: WGG0317

Depth: Stockpile

Date: 06-26-23



Client: SAR Environmental, LLC
Project: SAR Rock Products

Project No: 23093-1

Figure B-1

Tested By: PJH

Checked By: AML



CLIENT: SAR **DATE RECEIVED:** 6/20/2023
 Environmental,
PROJECT NAME: SAR Rock Products **DATE PERFORMED:** 6/30/2023
PROJECT #: 23093-1 **SAMPLE SOURCE:** SAR Pit
LAB #: WGG0317 **SAMPLE SUPPLIER:** SAR Rock Products
MATERIAL TYPE: Silty Sand (Brown) **REVIEWED BY:** AML
 "Unit 1"

UNIT WEIGHT OF AGGREGATE

METHOD USED: ASTM DESIGNATION C-29 - Method A (Rodding)

WEIGHT OF CONTAINER:	<input type="text" value="16.3"/> lbs
WEIGHT OF CONTAINER & SAMPLE:	<input type="text" value="57.0"/> lbs
WEIGHT OF SAMPLE:	<input type="text" value="40.7"/> lbs
VOLUME OF CONTAINER:	<input type="text" value="0.5"/> ft ³
DRY UNIT WEIGHT:	<input type="text" value="81"/> lbs/ft ³
	<input type="text" value="2198"/> lbs/yd ³
UNIT WEIGHT AT FIELD MOISTURE (4.1%):	<input type="text" value="84"/> lbs/ft ³
	<input type="text" value="2277"/> lbs/yd ³



CLIENT: SAR **DATE RECEIVED:** 6/20/2023
Environmental,
PROJECT NAME: SAR Rock Products **DATE PERFORMED:** 6/30/2023
PROJECT #: 23093 - 1 **SAMPLE SOURCE:** SAR Pit
LAB #: WGG0317 **SAMPLE SUPPLIER:** SAR Rock Products
MATERIAL TYPE: Cobbles with Silt & Sand "Unit 2" **REVIEWED BY:** AML

UNIT WEIGHT OF AGGREGATE

METHOD USED: ASTM DESIGNATION C-29 - Method B (Jigging)

WEIGHT OF CONTAINER:	16.3 lbs
WEIGHT OF CONTAINER & SAMPLE:	73.7 lbs
WEIGHT OF SAMPLE:	57.4 lbs
VOLUME OF CONTAINER:	0.5 ft ³
DRY UNIT WEIGHT:	115 lbs/ft ³ 3100 lbs/yd ³
UNIT WEIGHT AT FIELD MOISTURE (0.3%):	115 lbs/ft ³ 3114 lbs/yd ³



CLIENT: SAR **DATE RECEIVED:** 6/20/2023
 Environmental,
PROJECT NAME: SAR Rock Products **DATE PERFORMED:** 6/30/2023
PROJECT #: 23093 - 1 **SAMPLE SOURCE:** SAR Pit Cliff Wall by
 Crushers
LAB #: WGG0317 **SAMPLE SUPPLIER:** SAR Rock Products
MATERIAL TYPE: Tuffaceous Sedimentary **REVIEWED BY:** AML
 Rock "Unit 3"

UNIT WEIGHT OF AGGREGATE

METHOD USED: ASTM C-29 Non-Method Mold Using Method A (Rodding)

WEIGHT OF CONTAINER:	<input type="text" value="12.0"/> lbs
WEIGHT OF CONTAINER & SAMPLE:	<input type="text" value="18.1"/> lbs
WEIGHT OF SAMPLE:	<input type="text" value="6.1"/> lbs
VOLUME OF CONTAINER:	<input type="text" value="0.0753"/> ft ³
DRY UNIT WEIGHT:	<input type="text" value="81"/> lbs/ft ³
	<input type="text" value="2193"/> lbs/yd ³
UNIT WEIGHT AT FIELD MOISTURE(6.1%):	<input type="text" value="86"/> lbs/ft ³
	<input type="text" value="2320"/> lbs/yd ³

L.A. ABRASION

ASTM C131 / AASHTO T96

Client:	SAR Environmental, LLC	Date Sampled:	6/20/2023
Project Name:	SAR Rock Products	Project No.:	23093
Sample Description:	3/4"-1/4" Gravel (Basalt)	Specification:	ODOT 02630.10(c)
Material Supplier:	SAR Rock Products	Lab No. :	WGG0317 A
Material Source:	SAR Pit	Date Analyzed:	6/23/2023
Sample Location:	Stockpile	Technician:	PJH
Grading:	B	Reviewed By:	AML

<u>Size of Sample</u>	<u>Amount of Sample (g)</u>	<u>Number of Spheres</u>
1/2"	2499.3	11
3/8"	2500.8	
Total Weight :	5000.1	

<u>Number of Revolutions</u>	<u>Original Weight (g)</u>	<u>After Test Wt. (g)</u>	<u>Loss (g)</u>	<u>% Wear</u>
500	5000.1	4245.6	754.5	15%

Remarks: Material DOES meet ODOT requirements of less than 35% wear.

Note: Data and results shown above include Test Method ASTM C131 / AASHTO T96. This report pertains only to the material tested and/or inspected and is not to be reproduced without prior authorization of Wallace Group. If part of a larger document, this report is not to be removed or reproduced separately. This report is the property of the Client and shall not be distributed to other parties without Client's permission.

L.A. ABRASION

ASTM C131 / AASHTO T96

Client:	SAR Environmental, LLC	Date Sampled:	6/20/2023
Project Name:	SAR Rock Products	Project No.:	23093
Sample Description:	3/4"-1/4" Gravel (Basalt)	Specification:	ODOT 02630.10(c)
Material Supplier:	SAR Rock Products	Lab No. :	WGG0317 B
Material Source:	SAR Pit	Date Analyzed:	6/23/2023
Sample Location:	Stockpile	Technician:	PJH
Grading:	B	Reviewed By:	AML

<u>Size of Sample</u>	<u>Amount of Sample (g)</u>	<u>Number of Spheres</u>
1/2"	2500	<u>11</u>
3/8"	2500.4	
Total Weight :		
	5000.4	

<u>Number of Revolutions</u>	<u>Original Weight (g)</u>	<u>After Test Wt. (g)</u>	<u>Loss (g)</u>	<u>% Wear</u>
500	5000.4	4222.8	777.6	16%

Remarks: Material DOES meet ODOT requirements of less than 35% wear.

Note: Data and results shown above include Test Method ASTM C131 / AASHTO T96. This report pertains only to the material tested and/or inspected and is not to be reproduced without prior authorization of Wallace Group. If part of a larger document, this report is not to be removed or reproduced separately. This report is the property of the Client and shall not be distributed to other parties without Client's permission.

TECHNICAL REPORT

Report To: Peter Herron
 Wallace Group, Inc.
 62915 NE 18th St. Ste. 1
 Bend, Oregon 97701

Date: 7/16/2023
Lab No.: 23-145

Project: SAR Rock Product (No. 23093) **Project No.:** 3691.1.1

Report of: Sodium Sulfate Soundness and Oregon Air Degradation.

Sample Identification

As requested, NTI provided sodium sulfate soundness and Oregon air degradation testing on crushed aggregate samples delivered to our laboratory by mail on June 27, 2023. Testing was performed in general accordance with the standards indicated. Our laboratory test results are summarized on the following tables and pages.

Laboratory Testing

Sample ID: Stockpile WGG0317A

Soundness of Aggregates by Use of Sodium Sulfate Coarse Aggregate (ASTM C88 & AASHTO T104)						
Sieve Size		% Grading of Original Sample	Weight of Test Fraction Before Test (g)	Weight of Test Fraction After Test (g)	Percent Loss	Weighted Percent Loss
Passing	Retained					
3/4"	1/2"	78.7	672.5	987.8	2%	2%
1/2"	3/8"	14.9	332.0			0%
3/8"	#4	6.4	301.5	287.0	5%	0%
					Total:	2%

Copies: (1) Addressee

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 SHEET 1 of 2

REVIEWED BY: Michael A. Ginsbach

Michael A. Ginsbach

TECHNICAL REPORT - Test results only relate to the items tested.



TECHNICAL REPORT

Report To: Peter Herron
Wallace Group, Inc.
62915 NE 18th St. Ste. 1
Bend, Oregon 97701

Date: 7/16/2023

Lab No.: 23-145

Project: SAR Rock Product (No. 23093)

Project No.: 3691.1.1

Sample ID: Stockpile WGG0317B

Soundness of Aggregates by Use of Sodium Sulfate Coarse Aggregate (ASTM C88 & AASHTO T104)						
Sieve Size		% Grading of Original Sample	Weight of Test Fraction Before Test (g)	Weight of Test Fraction After Test (g)	Percent Loss	Weighted Percent Loss
Passing	Retained					
3/4"	1/2"	78.7	671.2	978.5	2%	2%
1/2"	3/8"	14.9	331.6			0%
3/8"	#4	6.4	302.2	287.6	5%	0%
					Total:	2%

Oregon Air Aggregate Degradation (ODOT TM208)		
Sample ID	Aggregate Passing #20 Sieve (%)	Sediment Height (inches)
Stockpile WGG0317A	4.4	0.3

Oregon Air Aggregate Degradation (ODOT TM208)		
Sample ID	Aggregate Passing #20 Sieve (%)	Sediment Height (inches)
Stockpile WGG0317B	5.4	0.3

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SHEET 2 of 2

REVIEWED BY: Michael A. Ginsbach

TECHNICAL REPORT - Test results only relate to the items tested.

APPENDIX C



View looking southwest at existing road cut.



View looking northwest. Active crushing and processing area in photo left.



TP-08 trench profile. Note main cobble unit.



TP-07 sidewall profile. Note angular cobble and gravel deposit.



TP-03 profile. Note overburden and fluvial sediments overlying cobble unit.



TP-01 at photo right. Note overburden silty sand overlying talus/scree unit. ¾" stockpile in background.



WALLACE
GROUP
NORTHWEST GEOSYSTEM EXPERTS

APPENDIX D

Earthwork Volume Report

Unclassified surface compared to Unclassified surface

Surfaces	
Ground	Classification: Unclassified
Unit 2 Final	Classification: Unclassified

Bank Volumes Based on Surface Geometry Alone	
Cut material	331,608.1 yd³
Fill material	6,059.2 yd³
Excess	325,548.9 yd³

Note: 'Cut Material' is defined as material where [Unit 2 Final] is lower than [Ground]. 'Fill Material' is defined as the volume of material where [Unit 2 Final] is higher than [Ground].

Note: The above volumes are calculated solely from the geometries of the selected surfaces. No material properties are applied to the above numbers.

Date: 8/22/2023 7:24:26 AM	Project: G:\2023\23-091\Trimble\23-091.vce	Trimble Business Center
----------------------------	--	-------------------------

Earthwork Volume Report

Unclassified surface compared to Unclassified surface

Surfaces	
Unit 2 Final	Classification: Unclassified
Finished Pit Floor	Classification: Unclassified

Bank Volumes Based on Surface Geometry Alone	
Cut material	267,610.1 yd³
Fill material	185.0 yd³
Excess	267,425.1 yd³

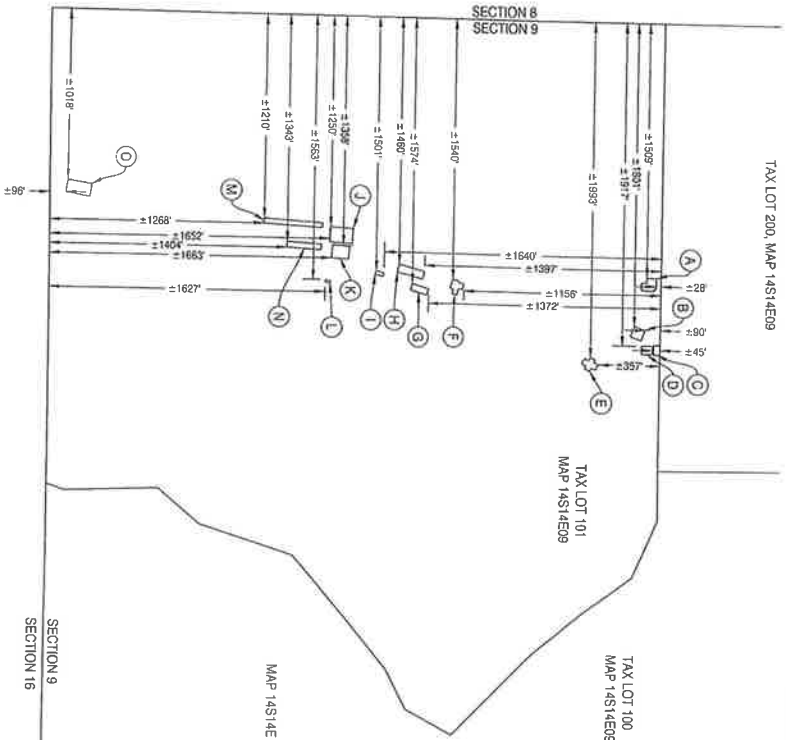
Note: 'Cut Material' is defined as material where [Finished Pit Floor] is lower than [Unit 2 Final]. 'Fill Material' is defined as the volume of material where [Finished Pit Floor] is higher than [Unit 2 Final].

Note: The above volumes are calculated solely from the geometries of the selected surfaces. No material properties are applied to the above numbers.

Date: 8/22/2023 7:26:27 AM	Project: G:\2023\23-091\Trimble\23-091.vce	Trimble Business Center
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MAP OF STRUCTURES
DOGAMI ID NUMBER 07-0150

LOCATED IN THE SOUTHWEST 1/4 OF SECTION 9, TOWNSHIP 14 SOUTH,
RANGE 14 EAST, WILLAMETTE MERIDIAN,
7850 LONE PINE ROAD, CITY OF TERREBONNE, CROOK COUNTY, OREGON
CROOK COUNTY PLANNING LAND USE APPLICATION: 217-15 000216-FLAG,
9.0 ACRE BURNING SITE APPROVED BY CROOK COUNTY ON MARCH 23, 2016
DATE: JUNE 7, 2024



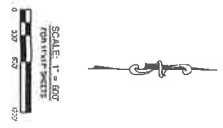
BUILDING NOTES:

BUILDING	EXISTING	LENGTH	WIDTH	PURPOSE
A	YES	±85'	±75'	LIVESTOCK BARN
B	YES	±65'	±65'	ANTIQUE TRAILER STORAGE
C	YES	±55'	±40'	ANTIQUE TRAILER STORAGE
D	YES	±65'	±50'	ANTIQUE TRAILER STORAGE
E	YES	±85'	±75'	RESIDENCE
F	YES	±85'	±75'	RESIDENCE
G	YES	±100'	±40'	AGRICULTURAL STORAGE
H	YES	±150'	±40'	AGRICULTURAL STORAGE
I	YES	±50'	±20'	AGRICULTURAL STORAGE
J	YES	±130'	±90'	AGRICULTURAL REPAIR SHOP
K	YES	±100'	±70'	AGRICULTURAL REPAIR SHOP
L	YES	±30'	±15'	MINE OFFICE
M	YES	±340'	±30'	AGRICULTURAL STORAGE
N	YES	±200'	±30'	AGRICULTURAL STORAGE
O	YES	±140'	±70'	HAY BARN

OWNERS
HEGEL CHARLES AND CARLEEN REVOCABLE TRUST
7850 LONE PINE ROAD
TERREBONNE, OR 97790

II A MFCOY
ENGINEERING & SURVEYING, LLC
100 1ST LAND ROAD SUITE 200
TERREBONNE, OR 97790
PREPARED FOR: HEGEL CHARLES AND CARLEEN REVOCABLE TRUST

6/17/2024
REGISTERED
PROFESSIONAL
LAND SURVEYOR
NOVEMBER 1, 2008
JASON SIMES
8325615
EXPIRES 6/30/24



GEOTECHNICAL INVESTIGATION

**Aggregate Resource Evaluation
Tax Lot 101, Section 9
T.14S., R. 14E
Crook County, Oregon**

Prepared for:

Mr. Chuck Hegele
7950 Lone Pine Road
Terrebonne, OR 97760

August 21, 2002

Prepared by:

Carlson Geotechnical
63025 O. B. Riley Road #11
Bend, Oregon 97701

EXHIBIT

tabbles

111

Carlson Geotechnical

A Division of Carlson Testing, Inc.
Geotechnical Consulting
Construction Inspection and Related Tests

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Bend, OR 97708
Phone (541) 330-9155
FAX (541) 330-9163

August 20, 2002

Mr. Chuck Hegele
7950 Lone Pine Road
Terrebonne, OR 97760

RE: AGGREGATE RESOURCE QUALITY/QUANTITY EVALUATION
Tax Lot 101, Section 9, T.14S., R.14E. Crook County, Oregon

SCOPE OF SERVICE

This report presents information about the subject property as an aid to categorization of the site as a significant aggregate resource. Our scope of work included the logging and sampling of test pits and exposures, laboratory testing of representative samples, engineering analysis of field and laboratory data, review of previous reports and site maps, and the preparation of this report. The following items were used as references during this investigation:

- A site map prepared by Western Surveying, dated April 17, 1998.
- A preliminary report prepared by Kleinfelder, dated January 9, 2002.
- A preliminary quarry plan prepared by Bussard Engineering, dated August 15, 2002.

This report expands on the preliminary report with comprehensive subsurface exploration within the area of interest. Our analyses include an estimate of the quantity and an evaluation of the quality of usable rock materials encountered on the subject site. The site is located east of Lone Pine Road and north of Butler Road, about 6 miles northeast of Terrebonne, Oregon. Figure 1 shows the location and surrounding topography.

FIELD INVESTIGATION

The subject site lies above the Lone Pine Valley in moderately to steeply sloping terrain, generally covered with native grasses and brush. Along the western margin, a level area used for parking equipment includes a stockpile of screened aggregate rock from previous mining of the slope immediately to the east. According to the owner, approximately five to seven thousand cubic yards of gravel are contained in the stockpile.

On June 4, 2002, personnel from Carlson Testing observed, logged, and sampled the excavations of seven test pits within the proposed quarry site. Test pits were excavated prior to our arrival by a large track-mounted excavator along a temporary access road

approximately uniformly across the site. Additionally, the exposures of the cuts near the stockpile, and a road, which ascends the hillside to the east, were noted for consistency and continuity of the subsurface stratigraphic layers. On July 25, 2002, three borings were excavated to depths ranging from 36 to 38 feet below the native ground surface. The borings were sited near previous test pits and cut exposures so that drill cuttings could be compared with the visible excavations, and to provide information regarding the deposits to the deeper limits of the drill. The locations of the test pits, borings, cut exposures and approximate boundary for the area of interest are shown on Figure 2. Logs of the subsurface materials encountered within the test pits and borings are appended, followed by a photograph of a cut exposure at the existing quarry.

The test pits revealed well-stratified alluvial materials consisting of dense gravel deposits interbedded with medium to well-cemented silty sands and sandy silts. Within the gravel layers, varying amounts of sand and fine gravel fill the interstices between the coarse gravel, cobbles, and small boulders; approximate quantities are noted in the test pit logs. As revealed in the cuts noted above, the gravel layers extend to a depth of at least 20 feet below the native ground surface, and extend horizontally throughout the length of the cut for distances in excess of 1200 feet. The drilling explorations encountered the deposit to depths up to 38 feet below the natural ground surface. The interbedded silty sand occurs in layers of up to 4 feet in thickness, usually once, and rarely twice in the upper 20 feet. Our interpretation of the drilling exploration indicates that 4 feet of sandy sediments was the maximum thickness encountered.

Observations of the stratigraphy exposed at the toe of the slope in the existing quarry, and along the road cut bordering the eastern margin of the proposed quarry, combined with the test pit and boring information from the interior of the site clearly indicate a continuous alluvial deposit exists. No significant geologic discontinuities or intrusions within the area of interest are evident.

LABORATORY TESTING

Per OAR 660-23-180, representative composite samples of the sandy gravel deposit were tested for abrasion, air degradation, and soundness. Samples were selected from test pits, cuts, and stockpile, then visually classified and compared. Laboratory tests were run on manually crushed material from the cobble fraction only. Copies of the laboratory test reports are appended. Results are compared with Oregon Department of Transportation (ODOT) specifications for base rock, and Portland Cement Concrete (PCC) in the following table. All tests meet ODOT requirements for base rock and PCC applications.

Test Name	ODOT Test Method	Base Rock Specification	PCC Specification	Test Result
Los Angles Rattler	TM 211	<35.0%	<30.0%	13.9%
Oregon Air Degradation	TM 208	<30.0% <75mm	<30.0% <75mm	17.4% 15.2mm
Sodium Sulfate Soundness	TM 206	NA	<12.0%	1.1%

ANALYSIS AND CONCLUSIONS

Within the test pits and exposed cuts, an average of about 12.7 feet of sandy gravel interbedded with one or two well defined silty sand layers occurs within 20 feet of the natural ground surface. Subsequent drilling indicates the gravelly layers extend to at least 38 feet below the ground surface, without substantial differences from the upper layers.

As depicted on the referenced quarry plan, approximately 24 acres of the southwest corner of the parcel are to be developed as a quarry. A side-hill cut operation with a maximum depth of removal of 35 feet is assumed. Four sections through the proposed quarry site were drawn to scale at approximately 400 foot intervals to estimate the average depth, providing for 1.5H:1V cut slopes with maximum heights of 30 feet. The sections are depicted on Figure 3. The resulting average depth of removal is 24.3 feet. The maximum removal of the alluvial material would yield approximately 941660 cubic yards. Allowing for loss of the topsoil and silty sand units (36.5% of total), and loss of sand and fine gravel during screening (35% of gravel fraction), approximately 388671 cubic yards of screened rock remains available. A conversion factor of 1.3 tons per cubic yard indicates that on the order of 505270 tons of aggregate is available.

The laboratory testing indicates the aggregate meets the ODOT specifications for base rock and PCC for quality. Further processing of the aggregate will likely be required to develop the gradation and fracture characteristics for any particular use. The basalt particles are particularly dense and hard compared to many of the rock units of Central Oregon, and can be considered of very high quality. The topsoil and screening reject material encountered on the site would be suitable for use as general fill material, or may be used as part of the site reclamation plan.

We agree with the general conclusions presented in the referenced Kleinfelder preliminary report, particularly with regard to the high quality of the resource. As recommended therein, we have completed a comprehensive subsurface exploration and testing program. Our results provide a reasonably accurate depiction of the subsurface materials throughout the area of interest. The above quantity factors are deliberately conservative, and illustrate that the quantity of aggregate available vastly exceeds the nominal requirements that define a significant resource. Similarly, the quality testing indicates the aggregate exceeds ODOT requirements by large margins. In our opinion, and in consideration of the facts presented herein, the site meets the standards set by the State of Oregon for quantity and quality as a significant aggregate resource.

LIMITATIONS

The recommendations and conclusions of this report pertain only to the site investigated. Varied conditions not present in our exploratory excavations could change the estimated

material quantities outlined in the report. The volumes presented in this report represent gross volumes that do not take into account the grading or restoration of the site.

The findings of this report are valid as of the present date; however, changes in the condition of a property can occur with the passage of time, whether they be due to natural process, or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur from legislation and the broadening of knowledge.

Accordingly, the findings of this report may be invalidated, wholly or partially by changes outside of our control. These opinions have been derived in accordance with the current standard of practice and no warranty is expressed or implied.

If you have any questions concerning this report or the exploration, do not hesitate to contact our office at (541) 330-9155.

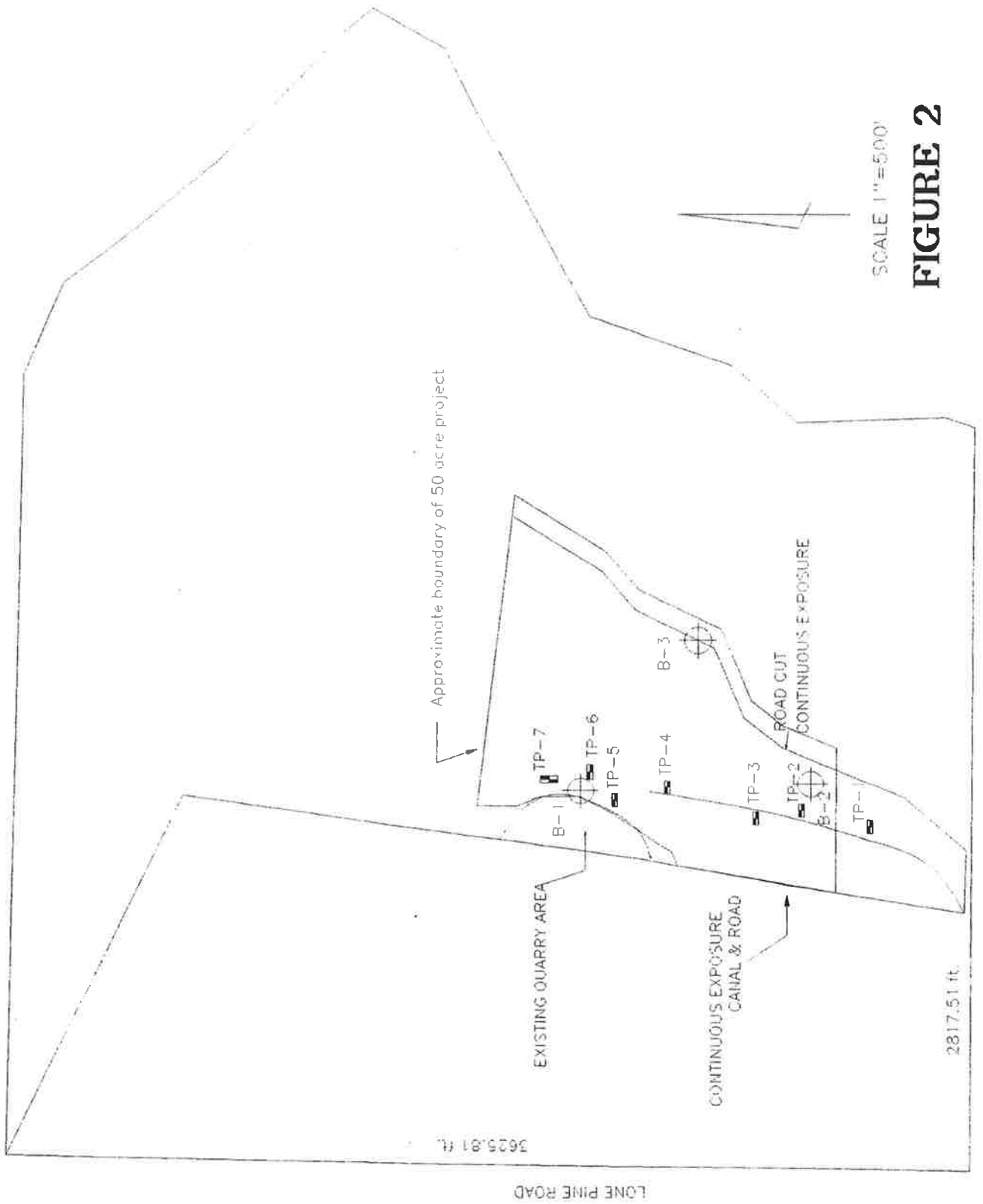
Sincerely,
Carlson Geotechnical



William A. Smith, P.E.
Geotechnical Engineer



Expires 6-30-2004



SCALE 1" = 500'

FIGURE 2

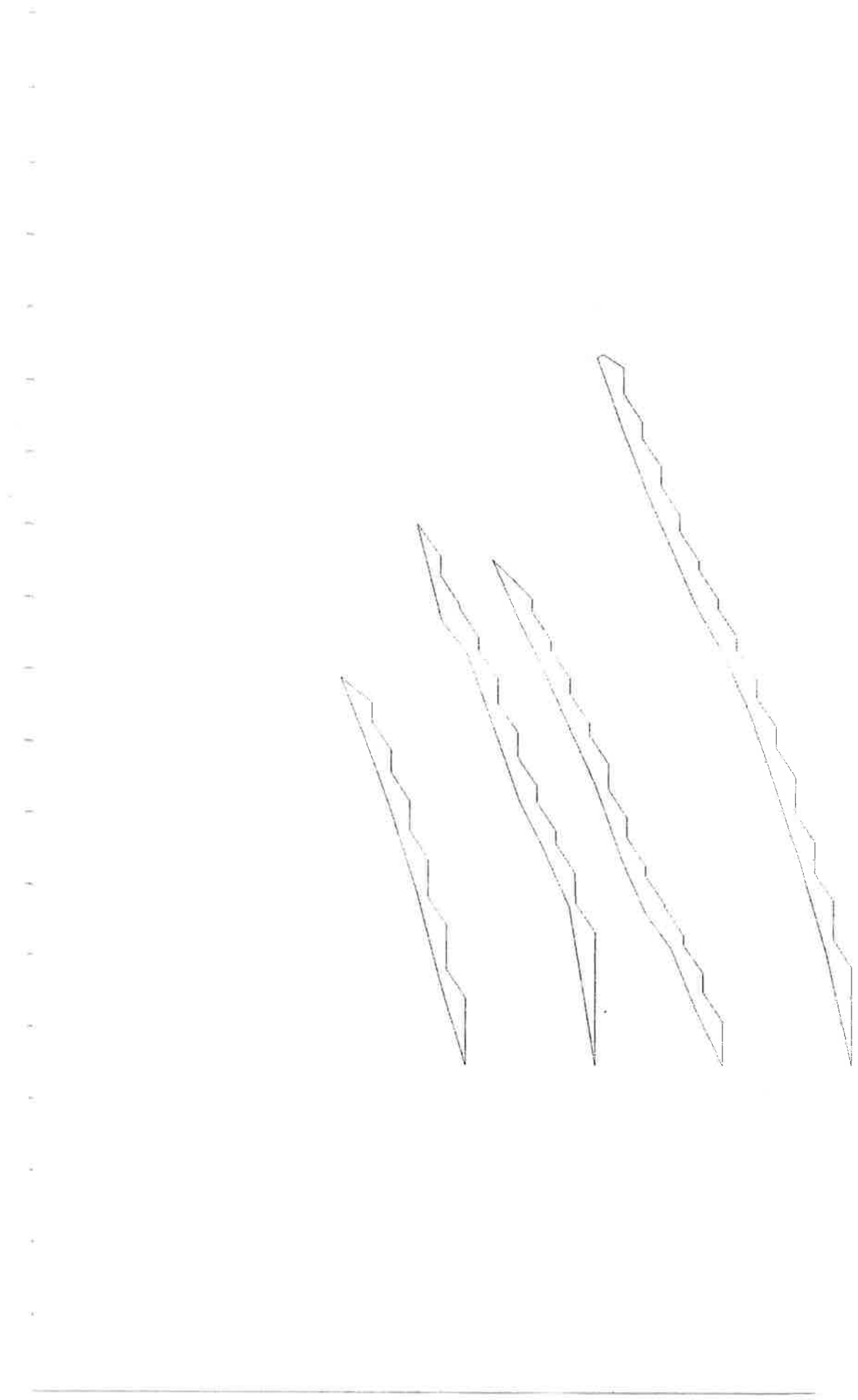


FIGURE 3

Hegele-- Aggregate Resource Evaluation

Logged by: Bill Smith

Date Logged: June 4, 2002

Location: See Site Plan

Surface Elevation: Unavailable

Depth (ft)	Pocket Penetrometer (tsf)	Sample Number	Sample Type	Moisture Content %	Groundwater	Unified Soil Classification	Material Description
1						SM	Silty fine to coarse SAND, with abundant cobbles, gray, dry, loose, with roots to 12". Topsoil.
2						SM	Silty SAND, light gray, slightly hard and moderately cemented with calcareous deposits, strongly reactive. Reduces to silty sand and sandy silt with moderate effort.
3							
4							
5							
6						GW	BASALT COBBLES, with some gravel and sand (30%), densely arranged, standing in vertical cut. No ground water or seepage observed in excavation. End of trench at 18'.
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							

Job No. B020 1454

Log of Test Pit 2



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Hegele-- Aggregate Resource Evaluation

Logged by: Bill Smith

Date Logged: June 4, 2002

Location: See Site Plan

Surface Elevation: Unavailable

Depth (ft)	Pocket Penetrometer (tsf)	Sample Number	Sample Type	Moisture Content %	Groundwater	Unified Soil Classification	Material Description
1						SM	Silty fine to coarse SAND, with abundant cobbles, gray, dry, loose, many roots. Topsoil.
2						GW	BASALT COBBLES, with some gravel and sand (25%), densely arranged, standing in vertical cut.
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							No ground water or seepage observed in excavation.
17							

Job No. B020 1454	Log of Test Pit 3	
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Hegele-- Aggregate Resource Evaluation

Logged by: Bill Smith

Date Logged: June 4, 2002

Location: See Site Plan

Surface Elevation: Unavailable

Depth (ft)	Pocket Penetrometer (tsf)	Sample Number	Sample Type	Moisture Content %	Groundwater	Unified Soil Classification	Material Description
						SM	Silty fine to coarse SAND, with gravel, gray, dry, loose, roots. Topsoil.
1						GW	BASALT COBBLES, with sand (35%), gray, dry, dense.
2							
3							
4							
5							
6							
7							
8						SM	Silty SAND, with gravel, light gray-brown, slightly calcareous, cemented, hard. Reduces to silty sand with moderate effort.
9							
10							
11							
12							
13							
14							
15							End of trench at 15'.
16							No ground water or seepage observed in excavation.
17							

Job No. B020 1454

Log of Test Pit 4



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Hegele-- Aggregate Resource Evaluation

Logged by: Bill Smith

Date Logged: June 4, 2002

Location: See Site Plan

Surface Elevation: Unavailable

Depth (ft)	Pocket Penetrometer (tsf)	Sample Number	Sample Type	Moisture Content %	Groundwater	Unified Soil Classification	Material Description
1						SM	Silty fine to coarse SAND, with gravel, gray, dry, loose. Slough and topsoil.
2							
3							
4						GW	GRAVEL to BASALT COBBLES, approximately 25% sand, gray, very dense
5							
6						SM	Silty SAND, with gravel, light gray-brown, slightly calcareous, cemented, hard. Reduces to silty sand with moderate effort.
7							
8						GW	BASALT COBBLES, with gravel and sand (25%), very dense.
9							
10							
11							
12						SM	Silty SAND, with gravel, light gray-brown, slightly calcareous, cemented, hard. Reduces to silty sand with moderate effort.
13							
14							
15							
16							No ground water or seepage observed in excavation.
17							End of trench at 16'.

Job No. B020 1454	Log of Test Pit 5	
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Hegele-- Aggregate Resource Evaluation

Logged by: Bill Smith

Date Logged: June 4, 2002

Location: See Site Plan

Surface Elevation: Unavailable

Depth (ft)	Pocket Penetrometer (fsp)	Sample Number	Sample Type	Moisture Content %	Groundwater	Unified Soil Classification	Material Description
						SM	Silty fine to coarse SAND, with gravel, gray, dry, loose, many roots.
1						GW	GRAVEL TO BASALT COBBLES, with 20-25% sand, gray, dense,
2							
3							
4							
5							
6							
7							
8						SM	Silty SAND, with gravel, light gray-brown, slightly calcareous, cemented, hard. Reduces to silty sand with moderate effort.
9							
10							
11						GW	BASALT COBBLES, with sand (30%), gray, dry, very dense.
12							
13							End of trench at 13'.
14							
15							
16							No ground water or seepage observed in excavation.
17							

Job No. B020 1454

Log of Test Pit 6



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Hegele-- Aggregate Resource Evaluation

Logged by: Bill Smith

Date Logged: June 4, 2002

Location: See Site Plan

Surface Elevation: Unavailable

Depth (ft)	Pocket Penetrometer (tsf)	Sample Number	Sample Type	Moisture Content %	Groundwater	Unified Soil Classification	Material Description
1						SM	Silty fine to coarse SAND, with cobbles, gray, dry, loose, many roots. Topsoil
2						GP	BASALT COBBLES, with sand (30%), gray, dry, very dense.
3							
4						SM	Silty SAND, with gravel, light gray-brown, slightly calcareous, cemented, hard. Reduces to silty sand with moderate effort.
5							
6							
7							
8							
9						GW	BASALT COBBLES, with sand (30%), gray, dry, very dense.
10							
11							End of trench at 11'.
12							
13							
14							
15							
16							No ground water or seepage observed in excavation.
17							

Job No. B020 1454	Log of Test Pit 7	
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LOG OF BORING B-1

(Page 1 of 1)

Aggregate Resource Evaluation Chuck Hegele c/o American Sprinkler 7950 Lone Pine Road Terrebonne, Oregon 97760		Logged by : Bill Smith Location : See site plan Date : July 25, 2002 Surface Elevation : Unavailable	Drill Rig Type : Ing-Rand ECM-490 Drill Equipment : 3" buck bit Drill Method : Air-rotary
--	--	---	---

Depth in Feet	GRAPHIC	USCS	DESCRIPTION
0		SM	Silty fine to coarse SAND, light grayish brown, dry, loose at surface becoming medium dense.
5			BASALT COBBLES, with gravel and sand, dense to very dense, (brownish gray sand with dark gray basalt rock fragments spoils)
10			Rate of advance is 2 minutes per 12 feet rod.
15			
20		GW	
25			
30			
35			
40			End of boring. No groundwater. Caving to 7'.

08-15-2002 c:\geotech\mtech\46\hegele\lb1 bor



LOG OF BORING B-2

(Page 1 of 1)

Aggregate Resource Evaluation
 Chuck Hegele
 c/o American Sprinkler
 7950 Lone Pine Road
 Terrebonne, Oregon 97760

Logged by : Bill Smith
 Location : See site plan
 Date : July 25, 2002
 Surface Elevation : Unavailable

Drill Rig Type : Ing-Rand ECM-490
 Drill Equipment : 3" buck bit
 Drill Method : Air-rotary

Depth in Feet	GRAPHIC	USCS	DESCRIPTION
0		SM	Silty fine to coarse SAND, light grayish brown, dry, loose at surface becoming medium dense.
5			BASALT COBBLES, with gravel and sand, dense to very dense, (brownish gray sand with dark gray basalt rock fragments spoils)
10			Rate of advance is 2 minutes per 12 feet rod.
15			
20		GW	
25			
30			
35			
40			End of boring. No groundwater. Caving to 22'.

08-15-2002 c:\geotech\mtech\46\hegele\b2.bor



LOG OF BORING B-3

(Page 1 of 1)

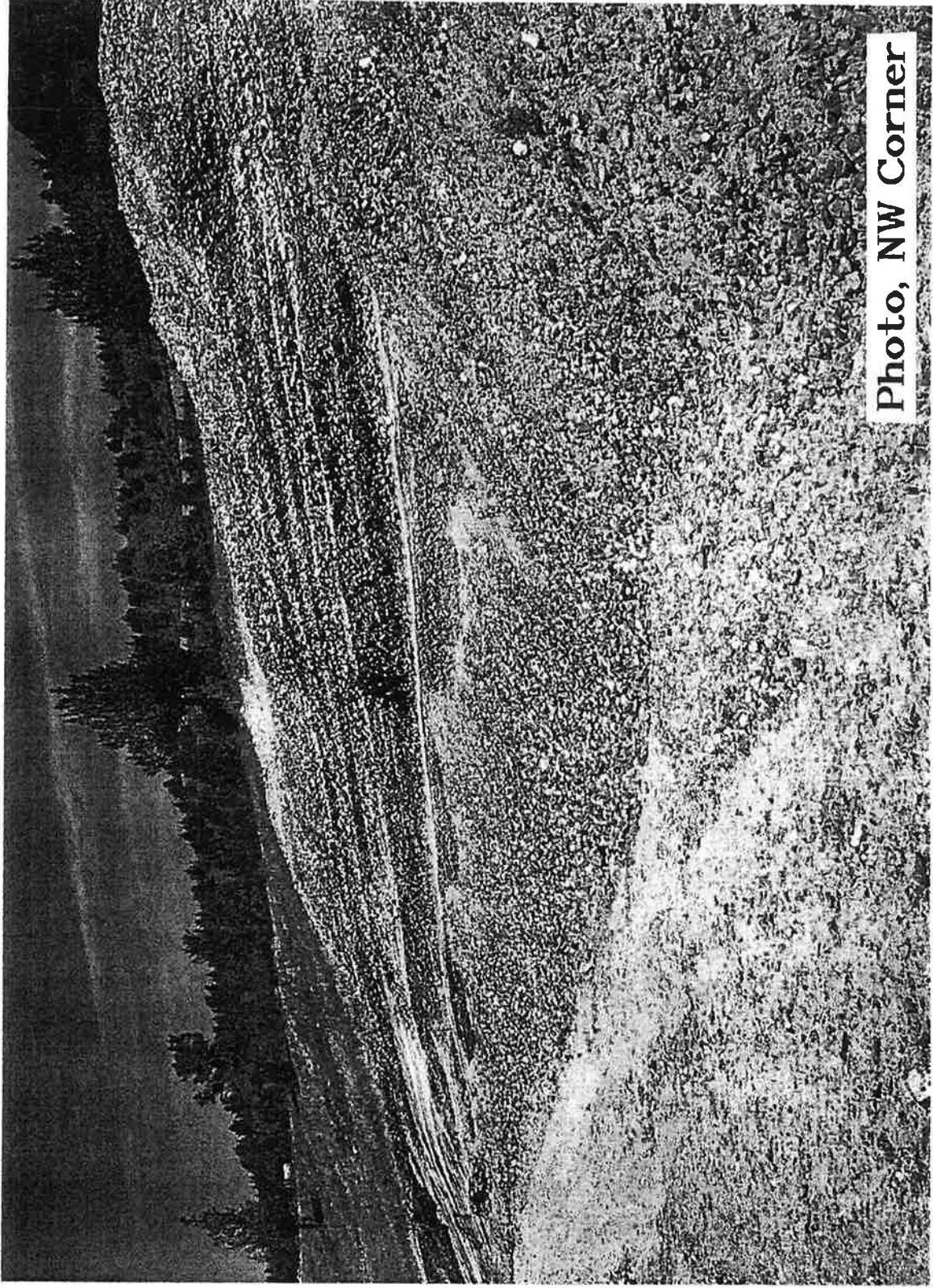
Aggregate Resource Evaluation
 Chuck Hegele
 c/o American Sprinkler
 7950 Lone Pine Road
 Terrebonne, Oregon 97760

Logged by : Bill Smith
 Location : See site plan
 Date : July 25, 2002
 Surface Elevation : Unavailable

Drill Rig Type : Ing-Rand ECM-490
 Drill Equipment : 3" buck bit
 Drill Method : Air-rotary

Depth in Feet	GRAPHIC	USCS	DESCRIPTION
0		SM	Silty fine to coarse SAND, light grayish brown, dry, loose at surface becoming medium dense.
5			BASALT COBBLES, with gravel and sand, dense to very dense, (brownish gray sand with dark gray basalt rock fragments spoils)
10			Rate of advance is 20 minutes per 12 feet rod.
15			
20		GW	
25			
30			
35			
40			End of boring. No groundwater. Caving to 24'.

08-15-2002 c:\gce\tech\mtech\46\hegele\lb3 bor



Photo, NW Corner

Carlson Testing, Inc.

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FAX (503) 589-1309

Bend Office
P.O. Box 7918
Bend, OR 97708
Phone (541) 330-9155
FAX (541) 330-9163

June 11, 2002
#B0201454.CTI

American Sprinkler
Attn: Chuck Hegle
10818 NW St. Helens Road
Portland, Oregon 97231

Re: American Sprinkler (Misc.)
Aggregate Durability Testing

Gentlemen:

As requested, we have completed aggregate durability testing on a sample of screened (3" max.) aggregate that was sampled and submitted to the laboratory on May 24, 2002 by our representative. The sample was obtained from the stockpile @ your Lonepine source. The testing and applied specifications were from the durability requirements of section 02630 (aggregate base) of the OSHD Standard Specifications For Highway Construction 1996. Following is the test data:

ABRASION - AASHTO T96:

Percent loss to abrasion @ 500 revs. = 13.9% *

* Grading "A" used in the loss determination

OSHD aggregate base specification: 35.0% maximum

SOUNDNESS - AASHTO T104:

Sieve Fractions	Weight Before Test	Weight After Test	Percent Loss @ 5 Cycles
1 1/2" x 3/4"	1517.5 g.	1503.8 g.	0.9
3/4" x 3/8"	999.8 g.	987.8 g.	1.2
3/8" x #4	304.5 g.	300.8 g.	1.2
Minus #4	-----	-----	-----
Totals:	2821.8 g.	2792.4 g.	3.3

Average percent of loss @ 5 cycles = 1.1%

OSHD aggregate base specification: No soundness specification for aggregate base.

DEGRADATION - OSHD TM 208:

Percent passing the 850 μ m sieve = 17.4%
OSHD aggregate base specification: 30.0% maximum

Sediment Height = 15 mm
OSHD aggregate base specification: 75 mm maximum

We have found the submitted sample to meet the durability requirements of section 02630 of the 1996 OSHD Standard Specifications.

Our reports pertain to the materials tested/inspected only. Information contained herein is not to be reproduced, except in full, without prior authorization from this office.

If there are any further questions regarding this matter please do not hesitate in contacting this office.

Respectfully Submitted,
CARLSON TESTING, INC.



Scott M. Jordan
Branch Manager

410-9800



January 9, 2002

Mr. Chuck Hegle
7950 Lone Pine Road
Terrebonne, OR 97760

Subject: Aggregate Quantity/Quality Assessment
Lone Pine Pit, Tax Lot 101, Section 9, T14S, R14E
Crook County, Oregon
Project No. 60-9445-01 (A01)

Dear Chuck:

As requested, Kleinfelder geotechnical personnel visited the subject site on December 21, 2001 to observe an existing mining operation. The purpose of our visit was to evaluate the quantity and quality of aggregate resources at the site. It is our understanding an application for a Department of Geology and Mineral Industries (DOGAMI) surface mining permit is being prepared. The evaluation included the following tasks:

- A site visit to observe exposures of aggregate in an existing cut;
- Reconnaissance of the surrounding area, including upland exposures of basalt rock;
- Survey review of the proposed extraction area, prepared by John Howell, PLS;
- Review of published geologic maps and unpublished geotechnical engineering reports for other gravel and rock quarries in the Lone Pine area; and
- Preparation of this report.

Field Observations

The existing pit is characterized by an approximate 20-foot cut into the toe of a moderately sloping hillside. Lone Pine Valley forms the floor of the pit, which has a base elevation of approximately 2,845 feet above mean sea level (msl). The southern portion of the pit (approximately 200 feet) has been previously mined and reclaimed, with the resulting slope estimated at 3 to 1, horizontal to vertical (H to V). A stockpile of screened, uncrushed, native material is located at the northern end of the proposed pit boundary, near an existing shop building. The stockpile volume was estimated at 7,000 cubic yards by the Client.

The material exposed in the excavation consists of interbedded, well-sorted alluvial deposits of silty sand, gravel and cobble, with a maximum rock size of approximately



12 inches. The alluvial material is horizontally bedded. The gravel and cobble particles are sub-rounded to sub-angular and are obviously water-worn. Near the base of the cut, a poorly sorted and non-stratified deposit of silty-gravel and cobble was observed. The rock fragments are angular and exhibit very little evidence water abrasion. These angular deposits are slope-wash and or rock fall material from upland areas. Exposures of Columbia River Basalt bedrock (CRB) were noticed in a road cut above the pit area and forms steep cliffs at higher elevations. The vertical exposures of CRB approach 200 feet, and rise to an elevation of approximately 3,600 feet, or nearly 800 feet above the valley floor. Extensive talus deposits (loose, cobble-sized rock) are located at the base of the cliffs. Over time the talus becomes blended with overburden soil material and deposited near the toe of the hillside.

The bedrock underlying the CRB is welded-tuff of the John Day Formation (JDF) and was exposed near the ground surface in a road cut upland from the pit. The JDF in this area does not produce good quality aggregate and is of little commercial value. Both the CRB and JDF are shown on a geologic map of the area, entitled "Geologic Map of the Smith Rock Area", USGS Map No. I-1142 (Robinson, Stensland, 1979). The approximate contact between the two formations is shown to be at elevation 3,400 feet, however, we observed outcrops of CRB at approximate elevation 3,200 feet, in a few locations.

Proposed Pit Area and Restoration

The proposed extraction area is depicted on the survey map prepared by John Howell as a hillside-cut type of operation. The plan dimensions of the pit are approximately 400 feet by 1,600 feet. A cross-section included on the map shows the maximum vertical cut to be approximately 75 feet. The floor of the completed pit will be level and the cut area will reportedly be established at a slope of 3 to 1, H to V, to match the existing, restored slope. Based on the cross-section shown on the survey map we believe the completed slope will be stable when properly shaped, track-rolled and seeded.

Review of Available Geotechnical Reports for Lone Pine Area Sites

Kleinfelder personnel have been involved in the preparation of several aggregate quantity/quality investigations in the Lone Pine area since 1990. These investigations were conducted on potential sand and gravel sources and hard rock quarries. Sites investigated include:

- Lone Pine Rock Quarry, Sections 2 and 3, T14S, R14E, Crook County, Oregon, for R. L. Coats;
- Maynard Alves Rock Quarry site, 320 acres in Section 12, T14S, R14E, Crook County, Oregon, for Maynard Alves;
- Maynard Alves Sand and Gravel site, 220 acres in Section 14, T14S, R14E, Crook County, Oregon, for Hooker Creek Ranch;
- Tognoli Property, Sand and Gravel and Hard Rock, several sections in T14S, R14E, Crook County, Oregon, for Steve Tognoli; and

- Hull Property, Hard Rock site, 40 acres in Section 27, T14S, R14E, Crook County, Oregon, for Hap Taylor and Sons.

Kleinfelder is aware of geologic/geotechnical reports prepared for other Lone Pine area sites, including the Butler and Fehrenbacher properties, however, no attempt was made to obtain these reports. Aggregate evaluation reports listed above were reviewed to ascertain the overall quality of resources materials encountered. The materials encountered on these sites were of high quality, meeting various ODOT specifications for hardness and durability.

Conclusions

Based on our experience with these sites, it is our opinion the gravel and rock resource at the subject site was derived from known high-quality aggregate sources. The Columbia River Basalt in the Lone Pine area produces aggregate which meets ODOT specifications for base course and asphalt rock. The rock observed in the existing cut face is composed primarily of CRB fragments. The Client hired Materials Testing and Inspection (MTI) of Bend, to conduct laboratory tests on a sample of pit-run material. The sample is described on MTI's data sheet, attached, as "bulk rock, manually crushed". The test results indicate the sample meets the ODOT durability specification for aggregate base. The test results indicate the sample also meets the ODOT specification for asphalt aggregate.

The quantity of total material available must also be estimated for a DOGAMI application. The quantity of material is based on the survey map and cross-section prepared by John Howell, PLS. Based on a rough calculation, it is our opinion that approximately 850,000 cubic yards remain to be extracted. Oregon Administrative Rule (OAR) 660-023-180 identifies a significant aggregate source as one containing at least 100,000 tons of material meeting the ODOT specification for aggregate base course. The Client reported their screening operation results in approximately 35 percent loss or "reject" material passing a 5/8-inch screen. The gravel and rock material which could be extracted from this pit is, therefore, approximately 550,000 cubic yards. We estimate the weight of the material at 775,000 tons, based on 1.4 tons per cubic yard.

Based on our experience in the Lone Pine area, review of laboratory test results and quantity calculations, it is our opinion this site meets the Oregon requirements of a significant source of aggregate. The primary unknown is whether the high quality gravel and rock observed in the existing pit is present throughout the proposed pit area. More accurate quantity estimates should be based on a comprehensive subsurface exploration.

Limitations

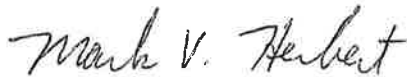
The conclusions, opinions and quantity estimates presented in this letter were based on a site visit, our experience in the Lone Pine area and information furnished by the Client. The Client must recognize that it is impossible to predict every physical condition that exists on-site, especially without the benefit of subsurface exploration.

If a higher level of accuracy or certainty is desired, it will be necessary to perform exploration (i.e. test pits and/or borings) and laboratory analysis. The professional judgments expressed in this report meet the standard of care of our profession.

Regulations and professional standards applicable to Kleinfelder's services are continually evolving. Techniques are, by necessity, often new and relatively unproven. Different professionals may reasonably adopt different approaches to similar problems. Therefore, no warranty or guarantee, expressed or implied, is included in Kleinfelder's scope of service.

If you have questions concerning this report, please call our office in Bend at (541) 382-4707

Sincerely,



Mark V. Herbert, P.E.
Sr. Geotechnical Engineer



Attachment: Laboratory Data Sheet from MTI



Environmental Services Geotechnical Engineering Construction Materials Testing Special Inspections

Test Date: January 4, 2002
Project: Lone Pine Pit Qualification
File Number: X10122

LABORATORY TEST REPORT

Sample #: 2719
Sample Description: Bulk rock, manually crushed.

Test Method: ASTM C131, AASHTO T 96, ODOT TM 211

Grading A
Initial Sample Wt: 5258.6
Final Sample Wt: 4465.9
Percent Loss: 15.1 ODOT Base Rock Specification: ≤35.0%

Test Method: Oregon Air Degradation, ODOT TM 208

Initial Sample Wt: 100.01
Final Sample Wt: 97.30
Percent Loss: 2.7 ODOT Base Rock Specification: ≤30.0%
Sand Equivalent: 0.1 inch ODOT Base Rock Specification: ≤3.0 inch

The above test results indicate the material conforms to the requirements of ODOT Base Rock Specifications for the parameters tested.

William A. Smith, P.E.
Branch Engineer



Post-It® Fax Note	7671	Date	1/4/02	# of pages	1
To	Chuck Hegele	From	Smith		
Co./Dept.		Co.	MTI		
Phone #	503-286-2640	Phone #			
Fax #		Fax #			

February 27, 2015

Mr. Chuck Hegele
American Sprinklers
7950 Lone Pine Road
Terrebonne, OR 97760

Subject: Aggregate Quantity Assessment
Proposed Hegele Pit
Tax Lot 101, Section 9, T14S, R14E
Crook County, Oregon
Project No. 10501 (2)

Dear Chuck:

As requested, Wallace Group geotechnical personnel visited the subject site on January 8 and February 4, 2015, to observe a proposed quarry "pit" location, and perform field exploration for an assessment of commercial aggregate potential. The assessment included the following tasks:

- A site visit on January 8th to outline the project scope and perform a visual reconnaissance of the proposed pit and surrounding area
- Observe the excavation of six test pits on February 4, 2015
- Review of published geologic maps and prior reports for the project site prepared by Carlson Geotechnical, Project No. B020 1454, dated August 20, 2002 and Kleinfelder, Inc., Project No. 60-9445-01 (A01), dated January 4, 2002
- Preparation of this report.

Project Information

It is our understanding that an aggregate pit, approximately 9 acres in size, is proposed on a portion the subject property. Currently, the proposed pit is in the county's land use application process. As part of the process, the proposed pit must be placed on Crook County's Goal 5 inventory of significant aggregate resource sites. Aggregate quantity and quality information submittals are required in the application process. Aggregate testing for the proposed quarry site has been performed by others thus; additional testing was not requested for this study.



Preliminary Site Visit

Representatives of Wallace Group visited the site and met with you on January 8, 2015 to view the proposed pit site, and obtain information relevant to a requested aggregate quantity assessment. The pit location and surrounding areas were observed on foot and by vehicle per unimproved roadways along the perimeter of the proposed pit.

Proposed Pit Area

The proposed aggregate pit is located on a relatively steep, west facing slope, on the eastern edge of the Lone Pine Valley, approximately 500 feet east and 80 feet above the valley floor. The proposed pit will extend east into the slope, about 300 to 600 feet horizontally, with cuts of up to 85 feet into the hillside. The proposed pit base elevation ranges from about 2,925 feet to 2,935 feet above mean sea level (msl), with upper elevations ranging from about 3,030 feet to 3,090 feet msl. Two terraces have been cut into the existing slope of the proposed pit area, including a lower terrace at the western limits of the proposed pit, and a smaller terrace, approximately 120 feet upslope of the lower terrace. Cut-faces on the up-slope sides of the terraces range from about 5 to 20 feet in height, exposing basalt cobbles, gravel and silty-sand. An exposure of weathered to competent welded-tuff (John Day Formation) was observed in the southern portion of the lower terrace cut-face. Some small to moderate volume stockpiles of soil and aggregate were observed near the northern limit of the lower terrace, and a small raised berm runs along the downslope edge of the lower terrace. An un-paved roadway ascends the slope in a southwest to northeast direction above the upper limits of the proposed pit. Exposures of Columbia River Basalt bedrock (CRB) form steep cliffs near the crest of the hillside. The near vertical outcrops of CRB along the crest of the hillside top out at elevations of about 3,430 feet to 3,550 feet msl.

Field Exploration

Subsurface exploration, performed on February 4, 2015, included six backhoe test pits, designated TP-01 through TP-06, at various locations across the proposed pit area. Exploration depths ranged between 9 and 18 feet below ground surface (bgs). Approximate test pit locations are shown on Figure 2, Exploration Location Map. The test pits were excavated with a JCB JS220 tracked excavator provided by the Client. The excavator bucket was equipped with conventional spade teeth. Photographs of the test pits are presented in Appendix C.

A Wallace Group geotechnical professional monitored the exploration, logged the test pits, visually classified the materials encountered and collected samples. The exploration logs describe the materials encountered at each location. Bulk samples were obtained for laboratory particle size analysis. Test pit logs are presented in Appendix A, Field Exploration Summary.

Laboratory testing was conducted on a composite sample obtained from TP-01, TP-02, TP-04 and TP-05. Gradation analysis and moisture content testing was performed on the sample. Laboratory test results are presented in Appendix B.

Subsurface Materials

Test pits encountered native, somewhat horizontally stratified, basalt cobbles and gravel with silty-sand infill. Scattered, small boulders were observed in TP-04. The cobble and gravel fraction was generally subrounded to subangular with moderate surficial mineralization (calcium carbonate and/or silica coating). Man placed fill, consisting of the on-site cobbles, gravel and silty sand, related to the upper terrace grading, was observed in TP-05 and TP-06. Basalt cobbles and gravel extended to the full depth of exploration of 9 to 18 feet in all test pits. Basalt cobbles and gravel was encountered to depths of 38 feet below the ground surface in the vicinity of our test pits in borings performed by Carlson Geotechnical (Carlson, 2002). Groundwater or bedrock was not encountered in the test pits and the subsoils were slightly moist to moist.

The material in the proposed pit area is interpreted as alluvial and colluvial deposits from the overlying Columbia River Basalt (CRB). The bedrock underlying the CRB is welded-tuff of the John Day Formation (JDF), and the JDF was exposed in the south portion of the vertical cut on the up-slope side of the lower terrace. The JDF in this area does not produce good quality aggregate and is of little commercial value. Both the CRB and JDF are shown on a geologic map of the area, see Figure 4. The JDF in the pit area is mantled by the alluvium and colluvium deposits.

Conclusions

Based on our field exploration, a review of previous exploration reports, our experience, and our geologic knowledge of the proposed pit area, an estimate of probable aggregate quantities for the pit area has been prepared. The following assumptions have been made in preparing the aggregate quantity estimate:

- A pit area of approximately 9 acres, as designated by the Client, and as depicted on Figure 2
- Aggregate extends from the site surface to base of pit and is relatively consistent throughout the pit area
- A recoverable aggregate processing percentage of 65 percent (65 percent aggregate, 35 percent sand and fines), based on our observations, laboratory testing and review of previous reports
- A conversion factor of 1.4 tons per loose cubic yard of aggregate

Based on the planned pit area, subsurface conditions encountered, existing slope configuration and proposed pit slopes of 1½ : 1, H to V, we estimate approximately 576,000 cubic yards of material may be available for excavation. This estimate assumes that the aggregate resource extends level from the existing ground surface, easterly along the base of the pit area to the proposed pit slopes, with maximum cut depth of up to about 85 feet at the mid-pit area. An average pit length of 900 feet and width of 450 feet has been used in this calculation. We understand that the base of the pit may extend slightly downward or until encountering the underlying JDF.

Based on the above gross quantity estimate, and a processing loss of 35% of 5/8 inch minus “reject material”, a net aggregate quantity after processing of about 374,000 cubic yards of aggregate is obtained. Converting this quantity to aggregate weight yields an estimate of 523,600 tons of aggregate resource available in the pit.

The “reject material” may have economic value as general fill or landscape material, but alternatively could be stockpiled for use in reclamation of the pit site.

A typical pit cross-section through TP-04 and TP-05 is presented on Figure 3 and on Figure 2 as Line A – A’. A Local Area Geology Map is presented on Figure 4.

Based on the findings presented in this report, we believe that the proposed pit meets the State Planning Goal 5 requirements for aggregate quantity as per OAR Section 660-23-0180, Subsection 3 (a).

Limitations

The conclusions, assumptions and quantity estimates presented in this letter were based on our site visits, a review of previous studies for the property, subsurface exploration, our experience in the project area and information furnished by the Client.

The Client must recognize that it is impossible to predict every physical condition that exists on-site, and that may occur between or below the depth of our explorations. Conditions may be encountered during pit excavation and material processing that may alter the estimate presented in this report. The professional judgments expressed in this report meet the standard of care of our profession.

If you have questions concerning this report, please call our office at (541) 382-4707

Sincerely,



James A. Parker
Senior Geotechnical Professional



Mark V. Herbert, P.E., G.E.
Principal Geotechnical Engineer

Attachments: Figure 1 – Vicinity Map
 Figure 2 – Exploration Location Map
 Figure 3 – Pit Cross Section A – A'
 Figure 4 – Local Area Geology Map
 Appendix A – Field Exploration Summary
 Appendix B – Laboratory Test Results
 Appendix C – Test Pit and Site Photos

REFERENCES

Oregon Administrative Rules, Department of Land Conservation and Development,
Section 660-023-0180

U.S. Geological Survey, 1979, Geologic Map of the Smith Rock Area, Jefferson,
Deschutes, and Crook Counties, Oregon, Robinson, Paul T. and Stensland,
Donald H.

FIGURES



LEGEND

- APPROXIMATE SITE PERIMETER
- TP-01 : TEST PIT No. & LOCATIONS (6)
(APPROXIMATE)

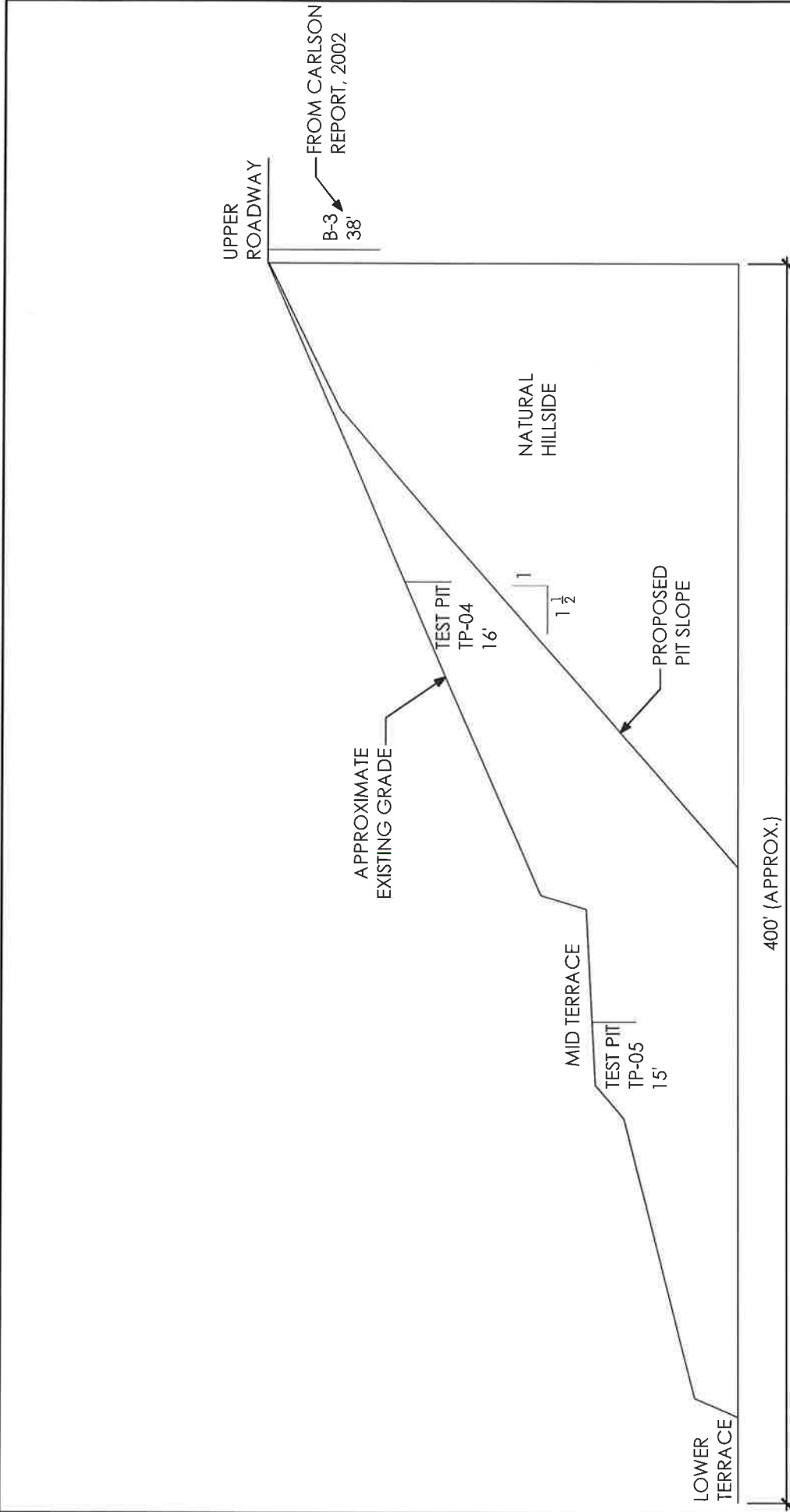


PROJECT No.:	10501 (2)	FIGURE
DRAWN:	Feb. 20, 2015	2
DRAWN BY:	DTJ	
CHECKED BY:	JAP	
FILE NAME:	10501 (2)_FIGURE_2.DWG	


EXPLORATION LOCATION MAP
HEGELE PIT
 7950 N. LOME PINE ROAD
 CROOK COUNTY, OREGON

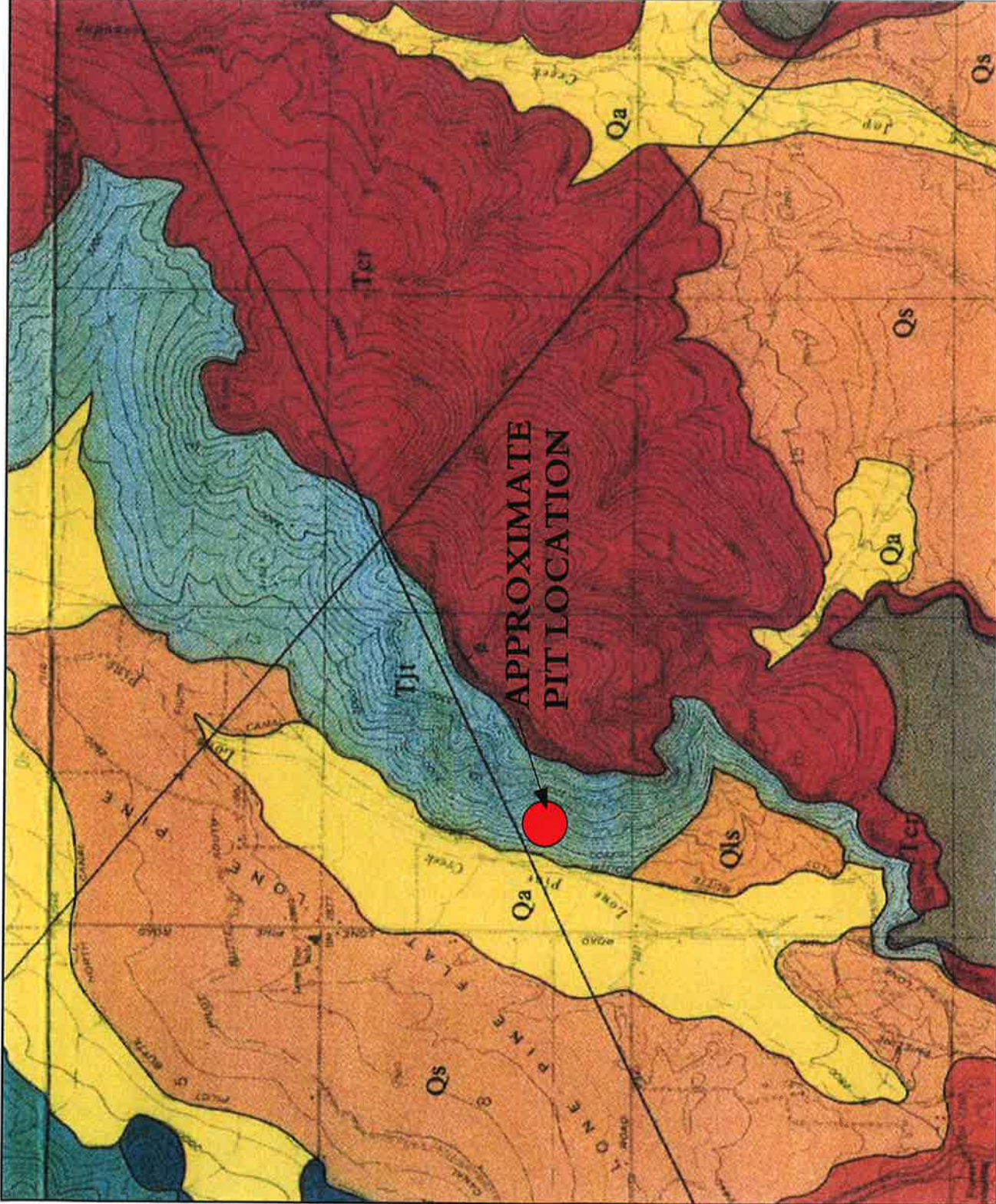


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SECTION VIEW TOWARD NORTH

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LEGEND

- Qa ALLUVIAL DEPOSITS
- Qls LANDSLIDE DEPOSITS
- Qs FLUVIATILE & LACUSTRINE DEPOSITS
- Ter COLUMBIA RIVER BASALT GROUP (MIOCENE)
- Tt UNDIFFERENTIATED TUFF, LAPILLI TUFF, & TUFFACEOUS SEDIMENTARY ROCKS



PROJECT No.:	10501 (2)	FIGURE
DRAWN:	Feb. 20, 2015	4
DRAWN BY:	DTJ	
CHECKED BY:	JAP	
FILE NAME:	10501 (2)_FIGURE_4.DWG	

LOCAL AREA GEOLOGIC MAP
HEGELE PIT
7950 N. LONE PINE ROAD
CROOK COUNTY, OREGON



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APPENDIX A

APPENDIX A

FIELD EXPLORATION SUMMARY

GENERAL

Subsurface conditions for the proposed Hegele Pit in Terrebonne, Oregon were explored by excavating 6 test pits (designated TP-01 through TP-06) at locations shown on Figure 2, Exploration Location Map. Test pit logs are included in this appendix. The exploration program was completed February 4, 2015. The procedures used to excavate test pits, collect soil and rock samples, and other field techniques are described in detail in this appendix. Unless otherwise noted, all soil and rock sampling and classification procedures followed local engineering practices which are in general accordance with relevant ASTM procedures and the Unified Soil Classification System (USCS). "General conformance" means that certain local and common excavation and descriptive practices and methodologies have been followed.

TEST PITS

The test pits were excavated with a JSC JS220 track-mounted excavator provided by American Sprinklers of Terrebonne, Oregon. The excavator bucket was equipped with conventional spade teeth. The test pits were observed by a Wallace Group geotechnical professional who maintained a detailed log of subsurface conditions and materials encountered, collected soil samples at appropriate depth intervals, and documented excavation backfilling. The test pits were excavated to depths ranging between 9 and 18 feet bgs. Bulk samples were retrieved for laboratory testing.

SAMPLING

Disturbed soil samples were retrieved from the test pits, classified and sealed in plastic bags for further examination and physical testing in our laboratory for gradation and moisture content.

TEST PIT LOGS

Figure A is a Legend explaining the information and symbols presented on the test pit logs. The logs of the test pits are presented on Figures A-1 through A-6. The logs describe the materials encountered and the depths where materials and/or characteristics of these materials changed, although the changes may be gradual. Where material types and descriptions changed between samples, the contacts were interpreted. On each test pit log, the types of samples collected (including their identification number) are reported, including laboratory test results.

MATERIAL DESCRIPTIONS

Soil samples were visually classified in the field as they were collected. Consistency, color, relative moisture, degree of plasticity, and other distinguishing characteristics of the samples were noted. Afterwards, the samples were re-examined in the laboratory, a particle size analysis was conducted, and the field classifications were modified where necessary. The terminology used in the soil classifications and rock descriptions are defined beginning on Page A-3 and are included under material description on each log.

GROUNDWATER

Groundwater was not encountered during subsurface exploration for this project.

Terminology Used to Describe Soil and Rock Soil Descriptions

Soils exist in mixtures with varying proportions of components. The predominant soil, i.e., greater than 50 percent based upon total dry weight, is the primary soil type and is capitalized in our log descriptions, e.g., SAND, GRAVEL, SILT or CLAY. Lesser percentages of other constituents in the soil mixture are indicated by use of modifier words in general accordance with the Visual-Manual Procedure (ASTM D2488-93). "General Accordance" means that certain local and common descriptive practices have been followed. In accordance with ASTM D2488, group symbols (such as GP or CH) are applied on that portion of the soil passing the 3-inch (75mm) sieve based upon visual examination. The following describes the use of soil names and modifying terms used to describe fine- and coarse-grained soils.

Fine - Grained Soils (More than 50% fines passing 0.074 mm, #200 sieve)

The primary soil type, i.e. SILT or CLAY is designated through visual – manual procedures to evaluate soil toughness, dilatency, dry strength, and plasticity. The following describes the terminology used to describe fine - grained soils, and varies from ASTM 2488 terminology in the use of some common terms.

Primary soil NAME, adjective and symbols			Plasticity Description	Plasticity Index (PI)
SILT	CLAY	ORGANIC		
ML & MH	CL & CH	SILT & CLAY OL & OH		
SILT		Organic SILT	Non-plastic	0 - 3
SILT		Organic SILT	Low plasticity	4 - 10
Clayey SILT	Silty CLAY	Organic clayey SILT	Medium Plasticity	>10 – 20
Clayey SILT	CLAY	Organic silty CLAY	High Plasticity	>20 – 40
Clayey SILT	CLAY	Organic CLAY	Very Plastic	>40

Modifying terms describing secondary constituents, estimated to 5 percent increments, are applied as follows:

Description	% Composition
Trace sand, trace gravel	5% - 10%
With sand; with gravel	15% - 25%
Sandy, or gravelly	30% - 45%

Borderline Symbols, for example CH/MH, are used where soils are not distinctly in one category or where variable soil units contain more than one soil type. **Dual Symbols**, for example CL-ML, are used where two symbols are required in accordance with ASTM D2488.

Soil Consistency. Consistency terms are applied to fine-grained, plastic soils (i.e., $PI \geq 4$). Descriptive terms are based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586-84, as follows.

Consistency Term	SPT N-value	Unconfined Compressive Strength	
		Tons/sq.ft.	kPa
Very soft	Less than 2	Less than 0.25	Less than 24
Soft	2 - 4	0.25 - 0.5	24 - 48
Medium stiff	5 - 8	0.5 - 1.0	48 - 96
Stiff	9 - 15	1.0 - 2.0	96 - 192
Very stiff	16 - 30	2.0 - 4.0	192 - 383
Hard	Over 30	Over 4.0	Over 383

Note: For SILT with low to non-plastic behavior, (i.e., $PI < 4$) a relative density description is applied.

Coarse-Grained Soils (less than 50% fines)

Coarse-grained soil descriptions, i.e., SAND or GRAVEL, are based on that portion of materials passing a 3-inch (75mm) sieve. Coarse-grained soil group symbols are applied in accordance with ASTM D2488 based upon the degree of grading, or distribution of grain sizes of the soil. For example, well graded sand containing a wide range of grain sizes is designated SW; poorly graded gravel, GP, contains high percentages of only certain grain sizes. Terms applied to grain sizes follow.

	Particle Diameter	
	Inches	Millimeters
Sand (S)	0.003 - 0.19	0.075 - 4.8
Gravel (G)	0.19 - 3.0	4.8 - 75
	Additional Constituents	
Cobble	3.0 - 12	75 - 300
Boulder	12 - 120	300 - 3050
Rock Block	>120	>3050

The primary soil type is capitalized, and the amount of 'fines' in the soil are described as indicated by the following examples. Other soil mixtures will provide similar descriptive names.

Example: Coarse-Grained Soil Descriptions with Fines

5% fines	10% fines (Dual Symbols)	15% to 45% fines
GRAVEL with trace silt: GW or GP	GRAVEL with silt, GW-GM	Silty GRAVEL: GM
SAND with trace clay: SW or SP	SAND with clay, SP-SC	Silty SAND: SM

Additional descriptive terminology applied to coarse-grained soils follow.

Coarse-Grained Soil Containing Secondary Constituents

Clean	< 5% fines
With sand or with gravel	15% - 25% sand or gravel
Sandy or gravelly	30% - 45% sand or gravel
With cobbles; with boulders	Any amount cobbles or boulders. Additional terms may be used to describe amount including abundant, scattered.

Cobble and boulder deposits may include a description of the matrix soils, as defined above.

Relative Density terms are applied to granular, non-plastic soils based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586.

Relative Term	Density	SPT N-value
	Very loose	0 - 4
	Loose	4 - 10
	Medium dense	10 - 30
	Dense	30 - 50
	Very dense	> 50

Soil Classification

	GW -Well graded gravels, gravel-sand mixture, little or no fines
	GP -Poorly graded gravels, gravel-sand mixtures, little or no fines
	GM -Silty gravels, gravel-sand-silt mixtures
	GC -Clayey gravels, gravel-sand-clay mixture
	SW -Well graded sands, gravelly sands, little or no fines
	SP -Poorly graded sands, gravelly sands, little or no fines
	SM -Silty sands, sand-silt mixture
	SC -Clayey sands, sand-clay mixture
	ML -Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity
	CL -Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL -Organic silts and organic silty clays of low plasticity
	MH -Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH -Inorganic clays of high plasticity, fat clays
	OH -Organic clays of medium to high plasticity, organic silts
	PT -Peat, humus, swamp and other highly organic soils
	AF -Fill, man-made, inorganic, variable density, composition, and soil types

Bedrock Units

	Basalt
	Weathered Basalt
	Tuff
	Sandstone
	Metamorphic

Surficial Material

	Asphalt or concrete
	Topsoil
	Fill, organic with debris

Log Descriptions and Field/Laboratory Measurements

Depth: Depth is depth below ground surface.

Graphic Log: Graphic depiction of the surface material encountered.

Material Description: Classification of subsurface soils and rock encountered. Soil classifications are in general conformance with either ASTM Unified Soil Classification System, D2487 or Visual-Manual Procedure, D2488. Changes may be gradual in nature or occur over a longer interval than indicated on log.

Groundwater Elevation: Approximate static water level (∇) or groundwater level during drilling/trenching (\blacktriangledown).

Sample Type: Refers to soil sampling apparatus (eg. SPT-split spoon, bag sample-bulk sample collected with shovel, Core-rock cored sample, HSA-hollow stem auger).

% Recovery: The total length of the sample recovered as a percentage of the total sample interval.

Standard Penetration Test (SPT N-Value): N-Value is the number of blows required to drive a standard 2.0" split spoon sampler a distance of 12" using a 140-lbs. hammer, dropped 30" (ASTM D-1586). Other samplers and hammers may be corrected to SPT values.

Dynamic Cone Penetrometer (DCP Value): DCP value is the number of blows required to drive a 1.5" diameter cone a distance of 12" using a 15-lbs. hammer, dropped 18" (ASTM Special Technical Publication 399).

Geovane: Hand instrument used to measure shear strength of soil in pounds per square foot (psf).

% Passing No. 200 Sieve: Amount of fine material passing the No. 200 sieve expressed as a percentage of the amount of sample tested in conformance with ASTM C117/C136.

% Moisture: Natural water content of the soil sample as determined in the lab.

Liquid and Plastic Limit: Characterization of the boundaries of the consistency states of plastic soils in conformance with ASTM D-4318. The results of these two values are used to compute the **Plasticity Index**; the range of water content of soil in which it behaves plastically. **Non-Plastic (NP):** Soil does not exhibit plasticity.

Unconfined Compressive Strength (UCS): Determines the unconfined compressive strength of intact soil or rock using a compressive device which measures load in pounds per square foot (psf), or pounds per square inch (psi).

Rock Quality Designation (RQD): The sum of the length of sound core pieces greater than 4" divided by the total length of core run.

Sample Types

- HSA:** Hollow Stem Auger
- SPT:** Split Spoon (2 1/2" outside diameter)
- Bulk:** Bulk Sample
- Core:** Rock Core Sample
- Sonic:** Sonic Sample
- SHT:** Shelby Tube Sample (3" outside diameter)
- Bag:** < 1-gallon size sample
- DM:** Dames & Moore (3" outside diameter)

LOG OF TEST PIT: TP-01

Project Name: Hegele Pit

Location: Terrebonne, OR

Number: 10501 (2)

Sheet 1 of 1

Depth, feet	Graphic Log	Material Description	Elevation	Sample Number	Sample Type	DCP (Blows/6")	Geovane	% Passing No. 200 Sieve	Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Comments	
1		GM Silty gravel with sand, cobbles, gravel and cobbles are subrounded-angular, medium dense, slightly moist, brown, non plastic	-1											
2			-2											
3			-3											
4			-4		S-1	Bag								
5			-5											
6			-6											
7			-7											
8			-8											
9			-9											
10		Bottom of test pit at 9 ft. bgs. due to repeated caving of pit walls. No Groundwater Encountered During Trenching (NGWEDT)	-10											
11	-11													
12	-12													
13	-13													
14	-14													
15	-15													
16	-16													
17	-17													
18	-18													
19	-19													
20	-20													

Completion Depth: 9'
 Date Started: 2/04/15
 Date Completed: 2/04/15
 Logged By: James Parker

Equipment: JCB JS220 Excavator
 DCP Drop Wt: N/A
 DCP Drop Height: N/A
 Reviewed By: *M. Herbert*

The Wallace Group
 62915 NE 18th Street, STE1
 Bend, Oregon 97701
 P: 541.382.4707
 F: 541.383.8118

Figure A-1

LOG OF TEST PIT: TP-02

Project Name: Hegele Pit

Location: Terrebonne, OR

Number: 10501 (2)

Sheet 1 of 1

Depth, feet	Graphic Log	Material Description	Elevation	Sample Number	Sample Type	DCP (Blows/6")	Geovane	% Passing No. 200 Sieve	Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Comments	
1		GM Silty gravel with sand, cobbles, gravel and cobbles are subrounded-angular, medium dense, slightly moist, brown, non plastic	-1											
2			-2											
3			-3											
4			-4											
5			-5			S-1	Bag							
6			-6											
7			-7											
8			-8											
9			-9											
10			-10											
11			-11											
12			-12											
13			-13											
14			-14											
15			-15											
16			-16											
17	-17	Bottom of test pit at 16 ft. bgs. due to repeated caving of pit walls. NGWEDT												
18	-18													
19	-19													
20	-20													

Completion Depth: 16'
 Date Started: 2/04/15
 Date Completed: 2/04/15
 Logged By: James Parker

Equipment: JCB JS220 Excavator
 DCP Drop Wt: N/A
 DCP Drop Height: N/A
 Reviewed By: *M. Herbert*

The Wallace Group
 62915 NE 18th Street, STE1
 Bend, Oregon 97701
 P: 541.382.4707
 F: 541.383.8118

Figure A-2

LOG OF TEST PIT: TP-03

Project Name: Hegele Pit

Location: Terrebonne, OR

Number: 10501 (2)

Sheet 1 of 1

Depth, feet	Graphic Log	Material Description	Elevation	Sample Number	Sample Type	DCP (Blows/6")	Geovane	% Passing No. 200 Sieve	Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Comments		
1		GM Silty gravel with sand, cobbles, gravel and cobbles are subrounded-subangular, medium dense, slightly moist, brown, non plastic	-1												
2			-2												
3			-3												
4			-4												
5			-5												
6			-6												
7			-7												
8			-8												
9			-9												
10			-10												
11			-11												
12			-12												
13			-13												
14			-14												
15			-15												
16			-16												
17			-17												
18			-18												
19		Bottom of test pit at 18 ft. bgs. due to repeated caving of pit walls. NGWEDT	-19												
20			-20												

Completion Depth: 18'
 Date Started: 2/04/15
 Date Completed: 2/04/15
 Logged By: James Parker

Equipment: JCB JS220 Excavator
 DCP Drop Wt: N/A
 DCP Drop Height: N/A
 Reviewed By: *M. Herbert*

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Figure A-3

LOG OF TEST PIT: TP-04

Project Name: Hegele Pit

Location: Terrebonne, OR

Number: 10501 (2)

Sheet 1 of 1

Depth, feet	Graphic Log	Material Description	Elevation	Sample Number	Sample Type	DCP (Blows/6")	Geovane	% Passing No. 200 Sieve	Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Comments	
1		GM Silty gravel with sand, cobbles, gravel and cobbles are subangular, medium dense, slightly moist, brown, non plastic -greater percentage of sand, scattered boulders up to 2' in diameter (subangular)	-1											
2			-2											
3			-3											
4			-4											
5			-5											
6			-6											
7			-7											
8			-8			S-1	Bag							
9			-9											
10			-10											
11			-11											
12			-12											
13			-13											
14			-14											
15			-15											
16			-16											
17		Bottom of test pit at 16 ft. bgs. due to repeated caving of pit walls. NGWEDT	-17											
18			-18											
19			-19											
20			-20											

Completion Depth: 16'
 Date Started: 2/04/15
 Date Completed: 2/04/15
 Logged By: James Parker

Equipment: JCB JS220 Excavator
 DCP Drop Wt: N/A
 DCP Drop Height: N/A
 Reviewed By: *M. Herbert*

The Wallace Group
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Figure A-4

LOG OF TEST PIT: TP-05

Project Name: Hegele Pit

Location: Terrebonne, OR

Number: 10501 (2)

Sheet 1 of 1

Depth, feet	Graphic Log	Material Description	Elevation	Sample Number	Sample Type	DCP (Blows/6")	Geovane	% Passing No. 200 Sieve	Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Comments	
1		AF Fill: Silty gravel with sand, cobbles, gravel and cobbles are subangular-angular, root zone (6-7' bgs), loose, slightly moist, brown, non plastic	-1											
2			-2											
3			-3											
4			-4											
5			-5											
6			-6			S-1	Bag							
7		GM Silty gravel with sand, cobbles, gravel and cobbles are subangular-angular, medium dense, moist, brown, non plastic	-7											
8			-8											
9			-9											
10			-10											
11			-11											
12			-12											
13			-13											
14			-14											
15			-15											
16		Bottom of test pit at 15 ft. bgs. due to repeated caving of pit walls. NGWEDT	-16											
17			-17											
18			-18											
19			-19											
20			-20											

Completion Depth: 15'
 Date Started: 2/04/15
 Date Completed: 2/04/15
 Logged By: James Parker

Equipment: JCB JS220 Excavator
 DCP Drop Wt: N/A
 DCP Drop Height: N/A
 Reviewed By: *M. Herbert*

The Wallace Group
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 Bend, Oregon 97701
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 F: 541.383.8118

Figure A-5

LOG OF TEST PIT: TP-06

Project Name: Hegele Pit

Location: Terrebonne, OR

Number: 10501 (2)

Sheet 1 of 1

Depth, feet	Graphic Log	Material Description	Elevation	Sample Number	Sample Type	DCP (Blows/6")	Geovane	% Passing No. 200 Sieve	Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Comments
1		AF Fill: Silty gravel with sand, cobbles, gravel and cobbles are subangular-angular, loose-medium dense, slightly moist, brown, non plastic	-1										
2			-2										
3			-3										
4			-4										
5			-5										
6		GM Silty gravel with sand, cobbles, gravel and cobbles are subangular-angular, medium dense, moist, brown, non plastic	-6										
7			-7										
8			-8										
9			-9										
10			-10										
11			-11										
12			-12										
13			-13										
14			-14										
15			-15										
16		Bottom of test pit at 15 ft. bgs. due to repeated caving of pit walls. NGWEDT	-16										
17		-17											
18		-18											
19		-19											
20		-20											

Completion Depth: 15'
 Date Started: 2/04/15
 Date Completed: 2/04/15
 Logged By: James Parker

Equipment: JCB JS220 Excavator
 DCP Drop Wt: N/A
 DCP Drop Height: N/A
 Reviewed By: *M. Herbert*

The Wallace Group
 62915 NE 18th Street, STE1
 Bend, Oregon 97701
 P: 541.382.4707
 F: 541.383.8118

Figure A-6

Appendix B



SIEVE ANALYSIS (ASTM C117 / C136)

Client: Charles Hegele
Project Name: Hegele Pit
Sample Description: 3" -0 Aggregate
Material Source: Hegele Pit
Sample Location: Combined Test Pit Sample
Project No.: 10501 -2
Lab No.: WG1465
Date Sampled: 02/04/15
Date Analyzed: 2/11/2015
Moisture %: 5.8%
Technician: SMW
Specification:
Sampled By: JAP
Reviewed By:

Comments:

Sieve Size	Percent Passing	Specified Limits
3"	100%	
2"	73%	
1 1/2"	53%	
1"	38%	
3/4"	32%	
1/2"	28%	
3/8"	26%	
1/4"	24%	
#4	22%	
#10	-	
#20	-	
#40	-	
#60	-	
#100	-	
#200	-	

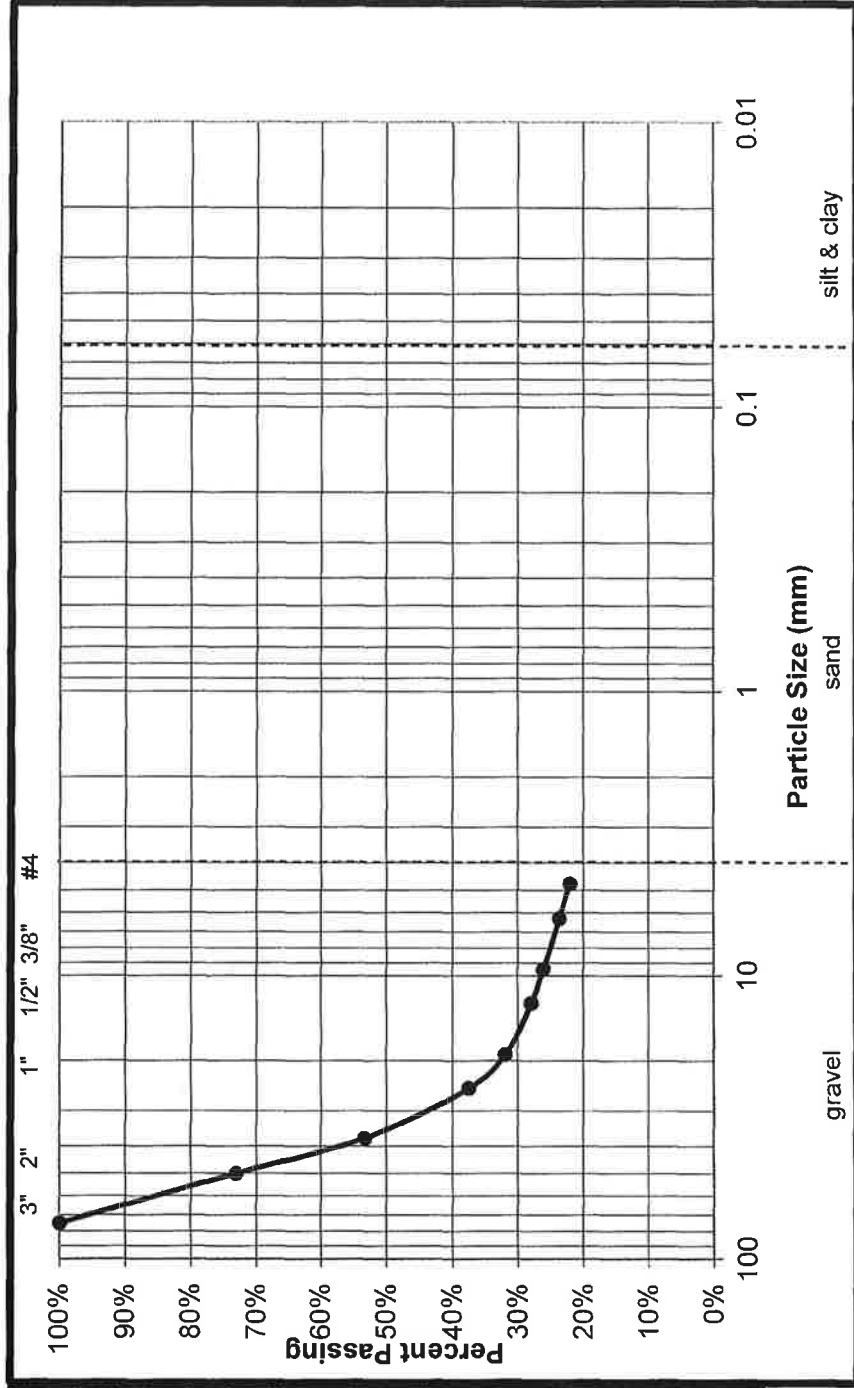


Figure B-1

Appendix C



Test Pit TP-01



Test Pit TP-01 Spoils



Test Pit TP-02



Test Pit TP-02 Spoils



Test Pit TP-03



Test Pit TP-03



Test Pit TP-04



Upper terrace cut face



Upper terrace cut face above TP-05



Test Pit TP-05



Test Pit TP-05 Spoils



Test Pit TP-06



Test Pit TP-06 Spoils



Small piles of excavated material, north portion of lower terrace



Lower terrace cut face

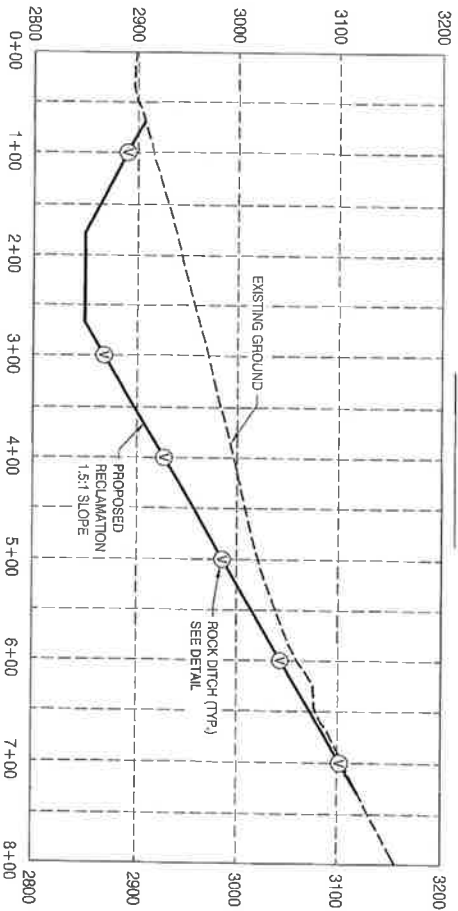


John Day Formation overlain by alluvial cobbles, lower terrace cut face, southern portion, note TP-04 spoils on hill, mid-terrace spoils and upper roadway cut spoils

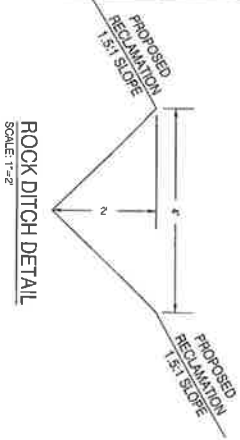
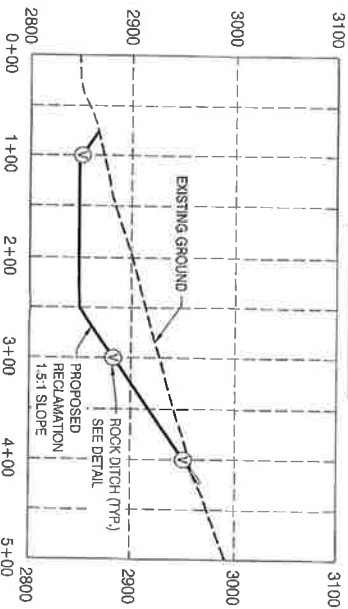
RECLAMATION PLAN

PERMITTEE: ROCKY HEBBLE
 PERMIT NO: 07-20150
 LOCATED IN: TOWNSHIP 14 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN,
 7950 LONE PINE ROAD, CITY OF TERREBONNE, CROOK COUNTY, OREGON,
 CROOK COUNTY PLANNING LAND USE APPLICATION: 217-15 000235-PLNG,
 9.0 ACRE MINING SITE APPROVED BY CROOK COUNTY ON MARCH 23, 2016
 DATE: DECEMBER 1, 2023

PROFILE: NORTH



PROFILE: SOUTH



H.A. MCCOY
 ENGINEERING & SURVEYING, LLC
 500 SW ALAMO BOULEVARD, SUITE 201
 TERREBONNE, OREGON 97140
 (503) 825-7500

OWNERS
 CHARLEEN C. HEBBLE TRUSTEE
 7950 LONE PINE ROAD
 TERREBONNE, OR 97140

PREPARED FOR: ROCKY HEBBLE
 7950 LONE PINE ROAD
 TERREBONNE, OR 97140

APPLICANT'S PROPOSED CONDITIONS OF APPROVAL

GENERAL REQUIREMENTS:

1. Mining operations and facilities (e.g., processing, stockpile, equipment) will be located at the current location, in the center of the existing 9-acre mining site, to minimize impacts to the nearest adjacent residence. At a minimum, all processing activities will occur at least 1,800 feet from existing residences, as proposed by the Applicant. Any modification to this plan will require review and approval by the Crook County Community Development Department.
2. No concrete or asphalt batch plants are authorized at the site.
3. The Applicant will provide the County with a legal description (survey) of the mine area. (This legal description is required as part of the Department of Geology and Mineral Industries (DOGAMI) operating permit).

CONDITIONS RELATED TO TRAFFIC IMPACTS:

4. **Trips/day.** The operation shall generate no more than 34 trips per day from the site (17 trucks outgoing and 17 trucks incoming). The mining operator shall make trip logs available to the Community Development Department upon request.

CONDITIONS RELATED TO MITIGATING NOISE:

The County has no noise ordinance, but noise is an impact that was previously identified by surrounding property owners as a concern. The existing berms and limits on operating hours are intended to help minimize noise impacts.

5. **Operating Hours**

- a. The Applicant shall operate the mine no more than 90 days (cumulative) in a calendar year. The calendar year will begin upon the Applicant's receipt of a DOGAMI operating and reclamation permit. Operations shall include excavation, processing and transporting materials off-site. The Applicant shall provide an annual report to the planning commission regarding the number of days of operation. The first report will be due one year from the effective date of the DOGAMI operating and reclamation permit.
- b. Ordinary operating hours shall be Monday through Friday, June 1st through October 31st from 6:00 a.m. to 9:00 p.m., or sunrise to sunset, whichever time period is less, and Saturday from 8:00 a.m. to 5:00 p.m. Operating hours shall be Monday through Friday, November 1st through May 31st from 7:00 a.m. to 6:00 p.m., or sunrise to sunset, whichever is less; and Saturday from 8:00 a.m. to 5:00 p.m. No operations shall be conducted on Sundays or on the following legal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, or Christmas Day.

CONDITIONS RELATED TO DUST MITIGATION:

6. The Applicant shall control all fugitive dust emissions associated with all operations (extraction,



processing, and storage) on the site. The Applicant shall control dust by applying water, seeding and/or mulching exposed soil surfaces.

7. The Applicant shall submit a dust management plan to, and obtain the required permits from, the appropriate state agency (Department of Geology and Mineral Industries and/or Department of Environmental Quality).

LIGHTING:

8. No lighting will be allowed on the site without the approval of the Crook County Community Development Department.

BERM AND VEGETATION:

9. The existing berm shall be maintained at the height of the berm existing as of February 1, 2016.
10. The poplar trees shall be irrigated and maintained for at least five years after reclamation is complete and the reclamation bond has been released by DOGAMI.
11. The Applicant shall stabilize slopes and other disturbed ground with hydro-seeding to minimize dust and erosion.

TIMING OF MINING – MINIMIZING QUALITY OF LIFE IMPACTS

12. **No more than 3 acres of ground shall be disturbed by mining at any time.** The 'disturbed area' refers to the active mining and reclamation cells and does not include the processing and stockpile area.

RECLAMATION:

13. The site will be reclaimed concurrently with mining as cells are completed.
14. All reclamation *activities will be subject to a reclamation plan approved by the Department of Geology and Mineral Industries.*

WEED CONTROL:

15. The Applicant will submit a weed control plan as a condition of approval. The plan must be approved by the Crook County Weedmaster prior to the start of any land disturbance on the mine site. The Applicant will submit annual weed control reports as required by Crook County Code.

WATER QUALITY:

16. There will be no surface water discharges from the mining site. Surface water on the site will be managed in accordance with Oregon Department of Environmental Quality permit requirements.

BLASTING:

17. Blasting shall be restricted to the hours of 9:00 a.m. to 5:00 p.m., Monday through Friday. No blasting shall occur on Saturdays, Sundays or legal holidays. The Applicant/operator shall provide written notice to adjacent property owners (within 2,000 feet) and to Crook County Community Development at least 72 hours prior to the time of blasting. Blasting shall not occur more than 3 days per year. Signs will be posted at the mine site entrance on NW Lone Pine Road at least 72 hours in advance to notify adjacent property owners of the potential blasting.

OTHER PERMITS:

18. The Applicant is responsible for acquiring all necessary permits from the Oregon Department of Geology and Mineral Industries and the Oregon Department of Environmental Quality.

November 9, 2023

Crook County
Community Development
300 NE 3rd St
Prineville, OR 97754

To whom it concerns:

My name is Richard Butler and I own the property next to Hegele's SAR rock pit on Lone Pine Road in Terrebonne. I am writing this letter in support of the Hegele's request for expansion of their current rock pit.

I have known the Hegele family since the mid 1990's. I am in support of their current rock quarry and support their decision to expand their pit. I understand that the proposed pit expansion is toward the south which is near my property. To the best of my knowledge, they run their pit in accordance with county and state rules. They are very respectful with hours ran and dust control. I have no objection to their request for expansion.

Thank you,

Richard Butler



EXHIBIT

116

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